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ABSTRACT
The purposes of this report are (1) to document the present inequalities in public school spending and local tax burdens and to identify the principal reasons for existing disparities; and (2) to review and evaluate proposals for reform of the currently inadequate public school finance systems. Previous studies, current State and Federal aid programs, and data on New England's property tax base, school tax rates, and expenditure per pupil are examined and analyzed. The following proposals for financial reform are discussed: more equalizing State aid, consolidation of small districts, broader property tax bases, State assumption of public school costs, and Federal block grants. The study strongly recommends reform of State systems to break the dependence of local school spending and tax effort on local wealth. A description of data and sources, calculation procedures for analysis of hypothetical equalizing State aid systems, and a list of selected references are included. (Author/LLR)

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# Existing Disparities in Public School Finance and Proposals for Reform

Steven J. Weiss

Research Report to the
Federal Reserve Bank of Boston
No. 46 February 1970

AA 000 622

# EXISTING DISPARITIES IN PUBLIC SCHOOL FINANCE

# AND PROPOSALS FOR REFORM

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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February 1970

FEDERAL RESERVE BANK OF BOSTON

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Valuable comments on a nearly final draft were received from Prof. John E. Coons of the Law School at the University of California, Berkeley, and Stephen D. Sugarman. My knowledgeable brother, Jonathan P. Weiss, of the Institute of Public Administration, New York, also made some useful suggestions.

Anna McGonagle typed the several drafts and many amendments with impressive speed and proficiency and somehow maintained her remarkably good spirits through it all. Heather Schofield prepared the charts, and the

comments of Mrs. Ruth Norr, Research Department editor, added clarity to the draft at some murky points. My wife, Sally, while editing elementary reading books during the day, read pieces of the drafts at night and kept me honest.

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# EXISTING DISPARITIES IN PUBLIC SCHOOL FINANCE AND PROPOSALS FOR REFORM

## I. INTRODUCTION

> Throughout its history this Nation has stressed education as the primary means of guaranteeing every citizen an equal chance at obtaining the rewards of an open society. If educational opportunities are unequal, then the American experiment in equality of opportunity must fail. The evidence indicates that we are indeed failing. Nor is there any strong indication that we are about to correct this failure.[1]

The goal of "equal educational opportunity" is deeply embedded in the American tradition, and few people would dispute that it is a commendable policy objective. A broad interpretation of this objective is that educational policy-makers should strive for a public school system designed "to insure that children from all groups come into adult society so equipped as to insure their full participation in this society..., to reduce the dependence of a child's opportunities on his social origins" or place of residence.[2]

In the past several years, concern about unequal educational opportunity has been aroused by studies documenting clear disparities along social class and racial lines:

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[1]Alan K. Campbell, "Inequities of School Finance," Saturday Review, Vol. LII (January 11, 1969), p. 44.

[2]James S. Coleman, "Equal Schools or Equal Students?" The Public Interest, No. 4 (Summer 1966), p. 72. As officially expressed, the goal of the Federal Government implies: "An opportunity for the best education which the Nation can offer each individual, suited to his abilities and interests and without regard to his family income, race, or place of residence" (Special Analysis J, The Budget of the United States, FY 1970, p. 117). For discussion of the concept, see Arthur E. Wise, Rich Schools, Poor Schools: The Promise of Equal Educational Opportunity (Chicago: University of Chicago Press, 1968), Ch. 8, and James S. Coleman, "The Concept of Equal Educational Opportunity," Harvard Educational Review, Vol. 38 (Winter 1968), pp. 7-22.

> Extensive sociological surveys of public schools reveal a disturbingly consistent pattern: poor children go to the most outmoded schools with the least motivated fellow classmates; they use the shabbiest facilities and are taught by the least capable teachers; they do the worst and may be looked upon by the system as incapable of doing better.[3]

Such findings are only the most dramatic symptoms of broader problems that are inherent in public school finance systems as currently operated in most states.

Educational opportunities are far from being equal today. Wide variations in the quality of public education among states, within states, and even among neighboring jurisdictions in metropolitan areas are well known. The present inequality is indicated by substantial differences in levels of per pupil expenditures.

Since school districts in most states rely heavily on local tax revenues, school expenditures are closely related to local wealth, or the size of the available tax base, as well as other factors such as the community's willingness to tax itself to pay for public education. As any property owner knows, the local property tax provides the lion's share of public school revenues in most states. This close tie between the property tax and school spending often yields strikingly inequitable results: "rich" districts are able to afford high levels of school spending at moderate tax rates while less affluent communities exert a greater tax effort and still spend less per pupil on schools. State governments intervene in the school finance system by pro-

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[3]David L. Kirp, "The Poor, the Schools, and Equal Protection," Harvard Educational Review, Vol. 38 (Fall 1968), p. 644. For documentation of disparities in educational opportunity, see James B. Conant, Slums and Suburbs (NY: McGraw-Hill Book Co., Inc., 1961); Francis Keppel, The Necessary Revolution in American Education, (NY: Harper & Row, 1966); James S. Coleman et al., Equality of Educational Opportunity (Washington: U.S.G.P.O., 1966); and U. S. Civil Rights Commission Report, Racial Isolation in the Public Schools (1967).

viding state aid in varying degrees and according to a complex variety of allocation procedures. Unfortunately, even when state school aid is intended to "equalize" local tax burdens and school spending levels, the results in practice are generally rather ineffective, and large disparities persist.

Federal aid to elementary and secondary education is focused primarily on stimulating programs to promote specific national objectives, and although the Federal contribution has increased sharply in absolute terms it remains a relatively minor factor in the total picture of public school finance.

The major purposes of this report are two-fold. The first is to document the present inequalities in public school spending levels and local tax burdens and to identify the principal reasons for the existing disparities. This will be accomplished by reference to previous studies, by critical examination of current state and Federal programs of aid to public schools, and by analysis of detailed data on the property tax base, school tax rates, and current expenditures per pupil for every community in each of the six New England states. This first part will provide the necessary groundwork for the second objective: a review and evaluation of proposals for reform of the currently inadequate systems of public school finance.

## Intergovernmental Aspects of Public School Finance

The burden of providing public schools in the United States has been delegated by most states to local government units, but from the earliest history of the Nation, state legislatures, and the Federal government as well, have recognized a broad interest in promoting and supporting education.

Initially, the states narrowly viewed education "not as a right granted to the individual but as a requirement imposed upon him for the good of the state."[4] Increased Federal and state promotion of public education has been fostered by empirical research that has documented the relationship between an individual's educational attainment and his earnings, and the contribution of education to economic growth.

There is a sound theoretical justification for state and Federal aid to education. Given the high mobility, increasingly sophisticated technology and generally growing social and economic interdependence of American society, it is clear that education is of more than merely local interest. Since many of the social benefits of public education can accrue outside the local jurisdiction where schooling is provided, an individual community "may fail to undertake expenditures which would be desirable from the viewpoint of the entire society,"[5] resulting in underinvestment in education, inefficient resource allocation that can be corrected only through action by higher levels of government.[6] The practical effects of "spillovers" of benefits of public education and the costs to society of citizens with inferior training, and the necessity of corrective response by government

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[4]Wise, Rich Schools, Poor Schools, p. 117, and his discussion in Ch. 5 generally.

[5]Burton A. Weisbrod, External Benefits of Public Education: An Economic Analysis (Princeton University, Department of Economics, Industrial Relations Section, 1964), p. 4.

[6]See Wallace E. Oates, "The Theory of Public Finance in a Federal System," Canadian Journal of Economics, Vol. I (February 1968) pp. 48-54. For theoretical analysis of grant systems designed to correct for distortions of resource allocation resulting from benefit spillover effects, see George F. Break, Intergovernmental Fiscal Relations in the United States (Washington: Brookings Inst., 1967), Ch. 3; and Robert W. Rafuse, Jr., "The Efficiency of Conditional Grants-in-Aid," in Joint Economic Committee, Revenue Sharing and Its Alternatives, 90th Congr., 1st sess. (1967), Vol. II, pp. 1053-1059.

above the local level are well expressed by former Governor Terry Sanford:[7]

> It is not enough to have the finest school system in the country if the adjoining district has one of the worst. Ultimately the product of the weak district will dilute the prosperity of the more fortunate products of the excellent system. Correcting this kind of damaging inequity requires State action.

Growing political awareness of the benefits of education and rising public demand for quality schools, together with persistent cost increases, have led to sharply higher expenditures on public education by all levels of government. Total spending on public elementary and secondary schools has grown at an annual rate of 9.8 percent since 1949, compared to an annual growth rate of 6.4 percent for GNP; and state and local tax effort to pay for public education has increased by almost 50 percent in the last decade.[8] While total public school spending has been rising quite rapidly, intergovernmental aid payments for public elementary and secondary education have been growing faster than the total. At a time when state and local governments have been hard pressed to raise funds for all types of new and expanded services, a larger and larger proportion of their resources has been devoted to paying for schools. The charts in Figure I show the growth of state and local general revenues from their own sources and revenues for public schools, for the Nation and the New England states.

The Federal commitment to elementary and secondary education increased sharply after passage of the Elementary and Secondary Education Act (ESEA)

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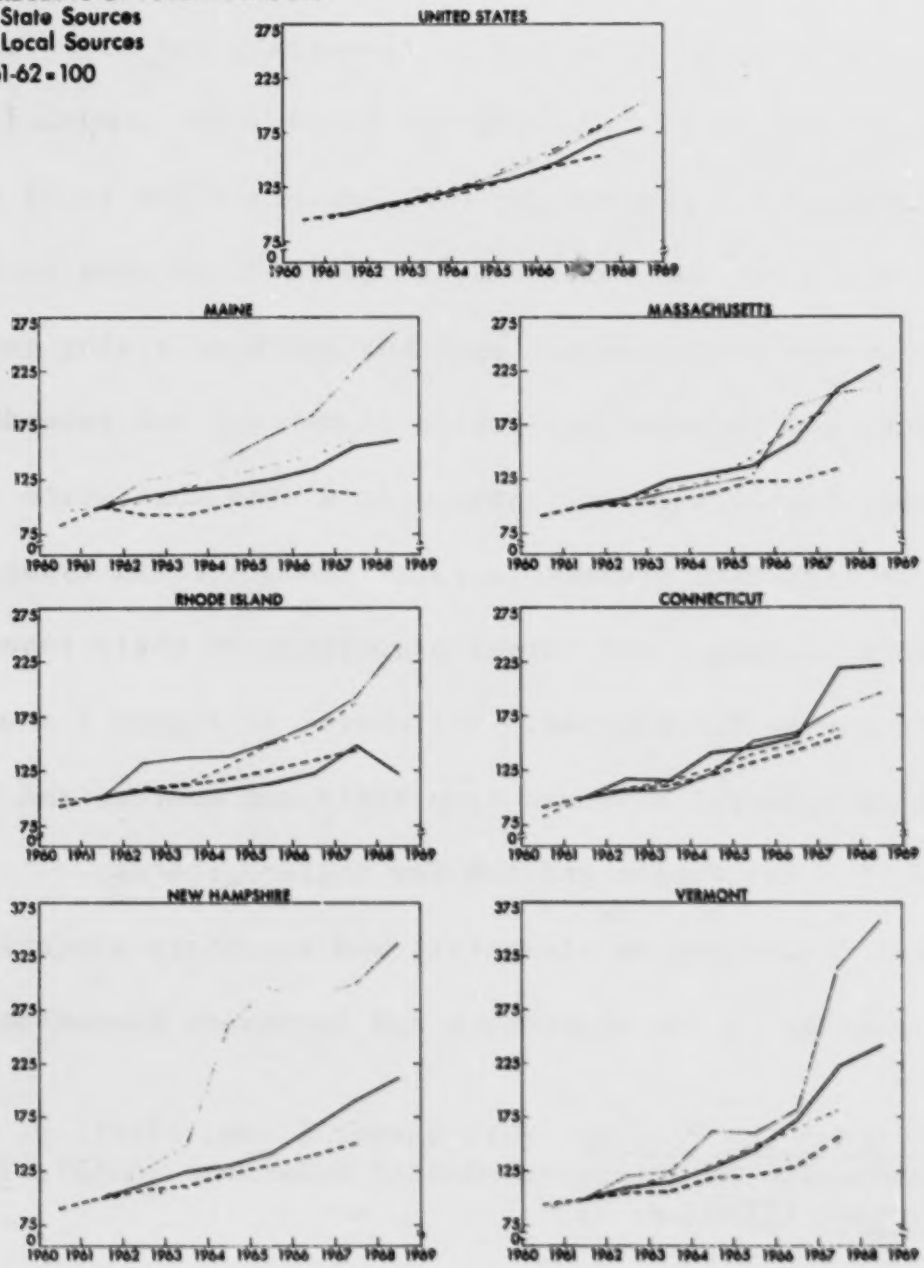
[7] But What About the People? (NY: Harper & Row, 1966), p. 157, cited in Advisory Commission on Intergovernmental Relations (ACIR), State Aid to Local Government (1969) p. 31.

[8] See data in ACIR, State Aid to Local Government, Table A-6, p. 53. Effort is measured here as the ratio of revenues for public elementary and secondary schools to state personal income. In all the New England states except Rhode Island and New Hampshire, effort increased substantially more than in the Nation as a whole between 1958 and 1968, but only Vermont was exerting an effort greater than the national average.

Figure I

RECENT TRENDS IN STATE AND LOCAL GENERAL REVENUES
AND REVENUES FOR PUBLIC SCHOOLS
United States and New England States

KEY:
ALL GENERAL REVENUES FROM OWN SOURCES
--- State Sources
--- Local Sources
REVENUE RECEIPTS OF PUBLIC SCHOOLS
—— State Sources
—— Local Sources
Index 1961-62 = 100



in 1965. The proportion of Federal education spending devoted to elementary and secondary schools doubled from about one-sixth in FY 1964 to over one-third in FY 1970.[9] Since 1965-66, however, state and local funds for public schools have grown faster than Federal support, which actually declined between 1968 and 1969. Table I, Part A, shows that despite the sharp increase in Federal aid under ESEA, the Federal contribution in public school finance is still quite small compared to the burden on state and local governments. The Table also demonstrates the important national trend toward assumption by the state governments of a larger share of the total cost of public education.

Following the national pattern, in the New England states the state share of public school finance has been growing faster than the local share (as the charts in Figure I demonstrate fairly consistently), but the local share remains consistently higher in New England than in the Nation as a whole (Table I, Part B). Furthermore, the New England states generally rely much more heavily than the Nation as a whole on local property taxes as a source of state and local government revenues (see Table II). As a result, the strain on <u>local</u> resources is especially severe in this region. These structural patterns suggest that disparities in school tax burdens and spending levels are likely to be greater in this region than in the Nation as a whole. The New England states, therefore, constitute a particularly fertile ground for demonstrating the potential gains from expansion or redirection of the intergovernmental role in public school finance.

Given the present severe strain on the local property tax base in many areas, it becomes apparent that intergovernmental action will be required

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[9]Special Analysis J, <u>The Budget of the United States</u>, FY 1970, p. 115.

TABLE I

Sources of Finance for Public Elementary and Secondary Schools,
U. S. and New England States
(Amounts in $millions)

| | Local Gov'ts | | State Gov'ts | | Fed'l Gov't | | Total |
|---|---|---|---|---|---|---|---|
| | $Amt. | % | $Amt. | % | $Amt. | % | $Amt. |
| A United States, Total | | | | | | | |
| 1959-60 | 8,327 | 56.5 | 5,768 | 39.1 | 652 | 4.4 | 14,747 |
| 1965-66 | 13,400 | 53.8 | 9,600 | 38.6 | 1,900 | 7.6 | 24,900 |
| 1968-69 | 17,544 | 52.0 | 13,728 | 40.7 | 2,453 | 7.3 | 33,725 |
| B New England, 1968-69 | | | | | | | |
| Connecticut | 365.0 | 64.3 | 178.0 | 31.3 | 25.0 | 4.4 | 568.0 |
| Maine | 80.0 | 58.0 | 47.9 | 34.7 | 9.9 | 7.2 | 137.9 |
| Massachusetts | 616.0 | 70.7 | 195.0 | 22.4 | 60.0 | 6.9 | 871.0 |
| New Hampshire | 83.3 | 86.0 | 8.8 | 9.1 | 4.8 | 4.9 | 96.9 |
| Rhode Island | 72.6 | 58.3 | 43.9 | 35.2 | 8.2 | 6.5 | 124.7 |
| Vermont | 55.8 | 66.2 | 25.0 | 29.7 | 3.5 | 4.2 | 84.3 |
| New England, Total | 1,272.8 | 67.2 | 498.6 | 26.2 | 111.4 | 5.9 | 1,882.8 |

SOURCES: U. S. Department of Health, Education and Welfare, Office of Education, Digest of Educational Statistics, 1967, Table 70, p. 56; and National Education Association, Estimates of School Statistics 1968-69, Research Report 1968-R-16, Table 10, p. 33. (All rights reserved. Permission obtained from Mrs. Beatrice Lee, NEA).

TABLE II

Importance of Local Property Taxes in State-Local Revenue Systems,
U. S. and New England States, 1966-67

| | Local Property Taxes as % of: | | | |
|---|---|---|---|---|
| | State and Local Gen. Rev. from Own Sources | Total State & Local Taxes | Local Gen. Rev. From Own Sources | Total Local Taxes |
| Connecticut | 43.7 | 51.5 | 85.3 | 99.4 |
| Maine | 39.7 | 48.0 | 85.5 | 99.0 |
| Massachusetts | 45.3 | 51.7 | 86.0 | 98.9 |
| New Hampshire | 50.3 | 60.1 | 86.5 | 98.5 |
| Rhode Island | 38.8 | 45.5 | 85.4 | 98.5 |
| Vermont | 31.7 | 37.6 | 86.6 | 97.4 |
| United States | 33.4 | 41.5 | 66.3 | 86.7 |

SOURCE: U. S. Department of Commerce, Bureau of the Census, Governmental Finances in 1966-67, Table 17, pp. 31-33, (Gov't Finance/GF 67 No. 3).

to relieve existing inequalities. Present disparities in local tax burdens and spending levels of public schools stem partly from the American tradition of vesting control and support of the schools primarily at the local level, a value judgment which is quite legitimate and has considerable merit. However, progress toward a more equitable system of public school finance has been hampered to some extent by the fear that increasing state and particularly Federal financial aid to public schools will ultimately weaken local decision-making and control. On the other hand, it can be argued that this concern is irrelevant

> because the scandalous discriminations now tolerated in public education in our society are a consequence not of too much but of too little local control. The existing financing mechanisms are not truly systems of local control; rather they are a system of naked privilege for those localities which are created by the state with superior power. Local control in the sense of entities with parity of power to perform their assigned tasks of education has never existed.[10]

Significant improvements in present public school finance arrangements could be initiated by the states, and even the Federal government, without jeopardizing local control. In fact, local options are severely limited under the present systems that closely tie school spending to the community's property tax base. As a result, many educational experts have been challenging the traditional notion that local control is dependent on substantial local financing, contending that while local control may be desirable, "it is not contingent on local support. To put it another way, control does

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[10]John E. Coons, William H. Clune III, and Stephen D. Sugarman, "Educational Opportunity: A Workable Constitutional Test for State Financial Structures," California Law Review, Vol. 57 (April 1969), p. 319. The opposing argument, viz. that equalization of per pupil spending would imply abandonment of local control, is expressed, for example, by Philip B. Kurland, "Equal Educational Opportunity, or The Limits of Constitutional Jurisprudence Undefined," in Charles U. Daly (ed.) The Quality of Inequality: Urban and Suburban Public Schools (The University of Chicago Center for Policy Study, 1968).

not necessarily follow money and local financial support for education is not necessarily essential to the maintenance of local control."[11] A truly equitable system would recognize differences in local educational needs and would enable communities to determine spending levels accordingly, without regard to fiscal capacity. "...Whether identical services are offered is irrelevant, since the goal is to provide equivalent opportunity for local development according to local needs within the decentralized structure of state responsibility."[12]

Movement toward equalization of educational opportunity and financial burdens has been stalled not by a dearth of proposals for reform but by a lack of political will. If state legislatures fail to enact substantial changes in their own school finance systems, reform may be forced in the near future through court action.[13]

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[11]Kern Alexander, "The Implications of the Dimensions of Educational Need for School Financing," p. 208 in Roe L. Johns, Kern Alexander and Richard Rossmiller (eds.), Dimensions of Educational Need, National Educational Finance Project, Vol. 1 (Gainesville, Florida: 1969).

[12]Dale L. Bolton, "Some Aspects of Equalizing Educational Opportunity and Taxation Burden," National Tax Journal, Vol. XI (December 1958), p. 355.

[13]See Myron Lieberman, "Equality of Educational Opportunity," Harvard Educational Review, Vol. 29 (Summer 1959), pp. 167-83: Harold W. Horowitz and Diana L. Neitring, "Equal Protection Aspects of Inequalities in Public Education and Public Assistance Programs from Place to Place Within a State," UCLA Law Review, Vol. 15 (1968), pp. 787-816; Wise, Rich Schools, Poor Schools; Coons, Clune and Sugarman, "Educational Opportunity...," and Private Wealth and Public Education (forthcoming, 1970, Harvard University Press): and David K. Cohen, "The Economics of Inequality," Saturday Review, Vol. LII (April 19, 1969), pp. 64 ff.

## II. DISPARITIES AT THE LOCAL LEVEL: WEALTH, EFFORT AND SPENDING LEVELS

Individual community statistics gathered for this study make it possible to analyze existing disparities within each of the New England states. For each of 1,384 communities, figures were derived to measure (1) local ability to support schools, (2) the effort exerted locally to support schools, and (3) the resultant quality of education provided by the local school system. Before proceeding with analysis, some comments are in order concerning the statistics employed.

(1) Equalized Valuation per Pupil is used throughout this study to measure local capacity or ability to pay for schools; the number of pupils involved is determined strictly on a resident pupil basis.[14] This measure reflects the size of the tax base available for local property taxation. Property values are expressed on a "equalized" basis within each state (i.e. some fixed ratio to full market value), but data are not necessarily comparable between states. There are inherent deficiencies in these data, particularly for certain states, and some conceptual weaknesses must be admitted as well.

First, ability to pay for schools is clearly affected by other economic factors; in particular, some measure of income is often preferred as a measure of fiscal capacity. Studies undertaken at different times and covering different geographic areas have yielded conflicting conclusions about the relative merits of income and property values as indices of local fiscal capacity and whether or not one is a reasonably good proxy for the

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[14]The rationale for this and a description of other statistical concepts and sources will be found in Appendix I.

other.[15] A serious obstacle to use of an income measure in the present context is that reliable figures are not generally available for areas coterminous with school taxing jurisdictions.

The adequacy of equalized valuation per pupil as a measure of ability to pay for schools is affected by the distribution of governmental responsibilities within a particular state, and the revenue requirements to finance non-school public services in any given community. Two local districts with similar per pupil property values obviously do not have comparable abilities to pay for schools if one is saddled with a large welfare burden and the other is not.

Despite its limitations, equalized property valuation per pupil is appropriate to use here in describing existing disparities in local fiscal capacity; on purely practical grounds, in the present situation property is the tax base accessible to school boards that must raise funds locally.

(2) "Basic" School Tax Rates were calculated as measures of local effort to raise revenues for school support. In this study, the local share of public school spending was derived on a residual basis by subtracting state and Federal aid payments to the local district from total

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[15]See, for example, George A. Bishop, "The Property Tax and Local Spending--A Need for Balance," New England Business Review, (December 1962), p. 3; Bishop notes a high correlation between school expenditures per pupil and resident income levels; income may serve as an index of community aspirations for education spending, or a proxy for willingness to pay. See also, H. Thomas James, J. Alan Thomas & Harold J. Dyck, Wealth, Expenditure and Decision-making for Education (Stanford University, School of Education, 1963) pp. 7-8; and R. L. Johns, "Indirect Measures of Local Ability to Support Schools," in Trends in Financing Public Education, Proceedings of the Eighth National Conference on School Finance, 1965, Committee on Educational Finance, National Education Association (subsequent references to these Committee conference proceedings will be noted as CEF/NEA Proc.).

current expenditures in basic school programs. Local effort is then expressed as the derived local contribution to expenditures divided by the tax base, equalized valuation:

$$r = \frac{L}{V} = \frac{E - S - F}{V}$$

In this formula, r = "basic" school tax rate; V = equalized valuation, and L, S, and F are the local, state and Federal government contributions to relevant public school expenditures, E, of any given district.[16]

Community aspirations for education, which affect willingness to pay for local schools, vary among communities. Higher income families generally have relatively high aspirations for their children's education. However, since local fiscal capacity is closely related to taxable wealth, a community with low property valuation per pupil may not be able to realize high spending levels even if its desire for quality schools is translated into a high local tax rate. Similarly, a low measured school tax rate may reflect local residents' unconcern about school spending, but this is by no means a necessary implication; the "basic" tax rate may be low because of purely fortuitous circumstances. For example, the community may be lucky enough to contain valuable property with few students attached (commercial and industrial land, or areas zoned restrictively for low-density housing), or it may have a high proportion of families sending their children to private schools. In fact, a low local effort may support excellent schools; unfortunately, the obverse situation is also true.

(3) Current Expenditures per Pupil is the measure employed in this study as a rough proxy for quality of a school district's educational product. Non-current expenditures and expenditures on functions that are

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[16]For details on what expenditures are included, see Appendix I.

ancillary to the basic educational program are deliberately excluded. For a number of reasons, this measure must be interpreted cautiously as an indicator of educational quality.

First, school costs tend to vary inversely with size of the district or size of the individual school. Thus, in someinstances, high expenditures may partly reflect inefficiency of small units.[17] Cost differences may also reflect regional variations in salary levels or input prices without any bearing on the quality of the output.

There is an extensive literature on "the cost-quality relationship" in public education, and educators have generally concluded that money does matter for all that it can buy in terms of goods and better professional services.[18] In addition, it obviously costs more to effectively educate some students than others. The Coleman Report and other studies raised doubts about the effectiveness of resource inputs in overcoming cultural, sociological and psychological barriers to educational achievement, and the debate about whether more money will produce better schools is reverberating

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[17]Walter Hettich, "Equalization Grants, Minimum Standards, and Unit Cost Differences in Education," Yale Economic Essays, Vol. 8 (Fall 1968); Nels W. Hanson, "Economies of Scale as a Cost Factor in Financing Public Schools," National Tax Journal (March 1962); and Francis G. Cornell, "Cost Differentials and District Size in State School Aid," in The Challenge of Change in School Finance, CEF/NEA Proc., 1967.

[18]J. K. Norton, Does Better Education Cost More? (CEF/NEA, 1959); Austin D. Swanson, "The Cost-Quality Relationship," The Challenge of Change in School Finance, pp. 151-64; and the review by Betty Buford, Statement before the General Subcommittee on Education of the House Education and Labor Committee, November 12, 1969, pertaining to H.R. 10833 (NEA release).

in many halls of the social sciences.[19] While this broad question of educational policy is unresolved, the present problems in public school finance are no less serious: it is still inequitable that equal tax effort can yield vastly unequal results in per pupil expenditure outcome. Therefore, critics of present public school finance systems are "unwilling to postpone reform while we await the hoped for refinements in methodology which will settle the issue.... If money is inadequate to improve education, the residents of poor districts should at least have an equal opportunity to be disappointed by its failure."[20]

Quantitative Dimensions of Disparities

Some statistical measures of intra-state variation in equalized valuation per pupil, "basic" school tax rates, and current expenditures per pupil are presented in Table III. The coefficients of variation provide a measure of the relative within-state variation, and these coefficients can legitimately be compared across states; however, interstate comparisons based on

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[19]The Coleman Report, Equality of Educational Opportunity, and Kenneth Clark, Dark Ghetto (NY: Harper & Row, 1965) raised the issue of critical non-resource factors; examples of critiques of the Coleman Report are Samuel Bowles and Henry M. Levin, "The Determinants of Scholastic Achievement--An Appraisal of Some Recent Evidence," Journal of Human Resources, Vol. 3 (Winter 1968), pp. 3-24; Henry S. Dyer, "School Factors and Equal Educational Opportunity," Harvard Educational Review, Vol. 38 (Winter 1968), pp. 38-56; and Christopher Jencks, "A Reappraisal of the Most Controversial Educational Document of Our Time," New York Times Magazine, (August 10, 1969), Pt. I, pp. 12 ff.

[20]Coons, Clune and Sugarman, Private Wealth and Public Education, Introduction.

TABLE III

STATISTICAL MEASURES OF EXISTING
DISPARITIES IN PUBLIC SCHOOL FINANCE,
NEW ENGLAND STATES

| | Maine | Mass. | Vermont | N. H. | R. I. | Conn. |
|---|---|---|---|---|---|---|
| A. Equalized Valuation per Pupil: ($ thous.) | | | | | | |
| 10th Percentile Level | 3.6 | 15.5 | 16.0 | 13.7 | 23.1 | 19.3 |
| Median | 7.8 | 22.3 | 25.9 | 22.6 | 28.9 | 29.5 |
| 90th Percentile Level | 25.6 | 45.2 | 57.4 | 56.2 | 42.5 | 46.8 |
| Mean | 12.2 | 28.8 | 33.6 | 29.3 | 33.1 | 32.2 |
| Coefficient of Variation | 107 | 94 | 75 | 69 | 52 | 38 |
| B. "Basic" School Tax Rate (Mills) | | | | | | |
| 10th Percentile Level | 16.8 | 13.2 | 6.8 | 10.2 | 7.3 | 9.9 |
| Median | 28.9 | 22.4 | 12.3 | 18.8 | 11.8 | 14.0 |
| 90th Percentile Level | 47.8 | 30.6 | 18.1 | 25.5 | 14.2 | 20.8 |
| Mean | 30.8 | 21.9 | 12.2 | 18.6 | 11.4 | 14.7 |
| Coefficient of Variation | 44 | 31 | 39 | 44 | 28 | 31 |
| C. Current Expenditures per Pupil ($): | | | | | | |
| 10th Percentile Level | 320 | 547 | 471 | 417 | 499 | 511 |
| Median | 394 | 666 | 568 | 509 | 564 | 631 |
| 90th Percentile Level | 555 | 858 | 689 | 679 | 670 | 801 |
| Mean | 428 | 684 | 577 | 534 | 574 | 640 |
| Coefficient of Variation | 18 | 21 | 16 | 21 | 13 | 16 |

the other data in the Table are not necessarily meaningful.[21]

The data reveal clearly that large intra-state disparities exist in local wealth, school tax effort and levels of school spending. The differences between the lowest and highest individual district values, which are not given in the Table, are quite extreme in some cases.[22] The most extreme variation appears in equalized valuation per pupil--the measure of local ability to pay for schools. Variation in tax rates is also quite high, and it is least severe in spending levels. This is, of course, as would be expected, since state school aid distributions and other factors tend to compensate partially for local wealth disparities. Even so, tax rates and spending results vary over a wide range. This is illustrated in the graphs in Figure II, which depict the frequency distributions of school tax rates and per pupil expenditures in Maine, where there is considerable variation and in Rhode Island, where variation is <u>least</u>.

The disparities in local wealth are particularly important insofar as they affect variation in tax effort and school spending at the local level, <u>i.e.</u> as long as they are not offset by state intervention. Previous studies of public school finance have concluded that wealth is the most important

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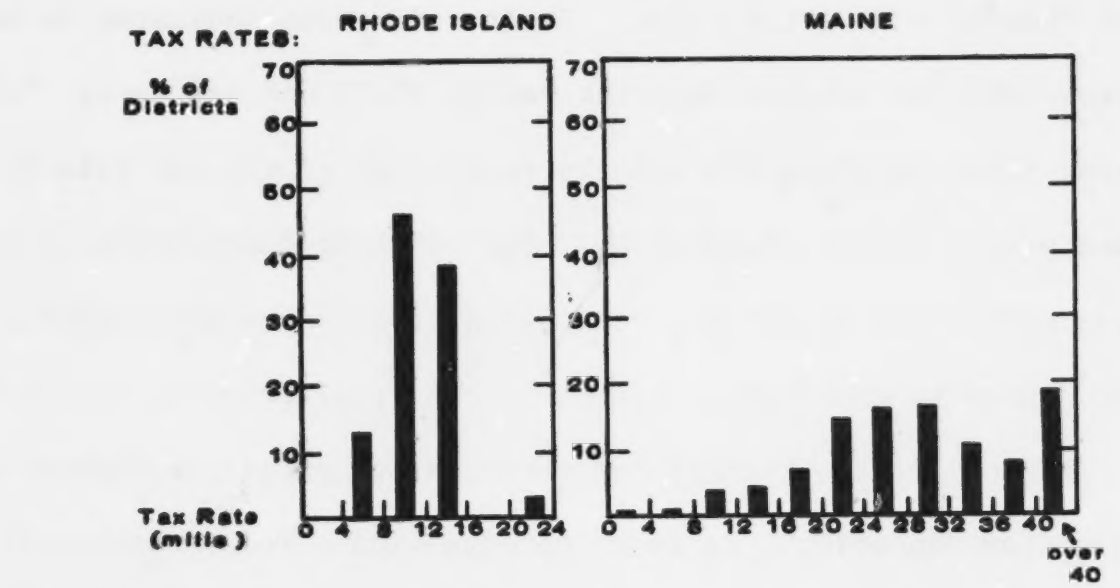
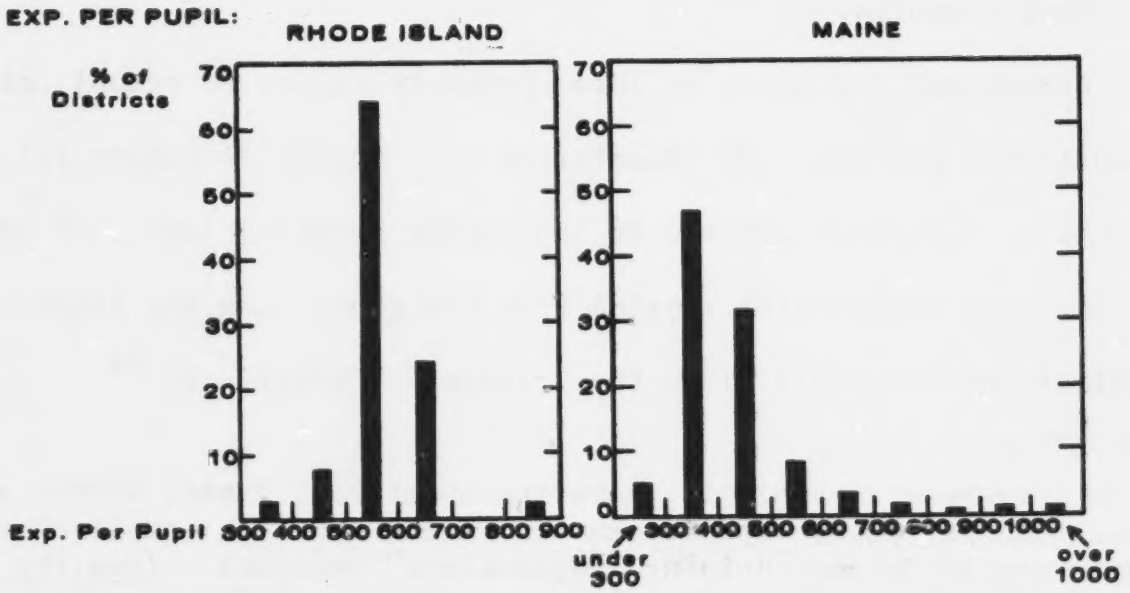
[21]The coefficient of variation is simply the ratio of the standard deviation to the mean, multiplied by 100. The other statistics presented in the Table cannot be compared across states for several reasons: inconsistencies in state determination of equalized valuation, as noted above; differences in accounting procedures used to derive expenditure figures; and differences in the years for which most recent data were available from the respective states.

[22]A small number of districts whose data yielded "freakish" results were dropped from the calculation of descriptive statistics and from calculations described below in connection with the analysis of proposals for reform.

Figure II

FREQUENCY DISTRIBUTIONS OF "BASIC" SCHOOL TAX RATES
AND CURRENT EXPENDITURES PER PUPIL,
MAINE AND RHODE ISLAND



single factor affecting expenditures for education;[23] the evidence from this study supports this conclusion. Simple correlations between the variables are given in Table IV. There is a consistent positive relationship between equalized valuation per pupil and current expenditures per pupil, and a strong inverse correlation between equalized valuation per pupil and "basic" school tax rates. Scatter diagrams indicated an apparent curvilinear relation between district wealth (V/P) and tax rates. One curvilinear form, relating V/P and the reciprocal of the tax rate (1/r), was tested and proved highly significant. The existing disparities in local school tax effort and spending levels quite clearly are attributable to an important degree to the heavy reliance on the local property tax in these states. In general, the highest tax rates do not yield the highest levels of spending for education. In fact, no significant relationship exists between these measures.

The persistent influence of local property values on school tax rates and expenditures per pupil is illustrated graphically in Figure III. The charts show a consistent pattern of increasing spending levels at decreasing tax rates across communities ranging from the group with the lowest per pupil valuations (Quintile I) to the "richest" (Quintile V).[24]

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[23]In a regression analysis, covering 10 states, James, Thomas and Dyck concluded that per pupil expenditures is related to both equalized valuation and median family income, holding "aspirations" constant. (Wealth, Expenditures, and Decision-Making for Education, Ch. 4.) Other examples of studies in this area are Werner Z. Hirsch, "Determinants of Public Education Expenditures," National Tax Journal, Vol. 13 (March 1960), pp. 24-40; Jerry Miner, Social and Economic Factors in Spending for Public Schools (Syracuse: Syracuse University Press, 1963); and George A. Bishop, "Stimulative Versus Substitutive Effects of State School Aid in New England," National Tax Journal, Vol. 17 (June 1964), pp. 133-43.

[24]The Rhode Island deviations from the general pattern apparently reflect the small size of the quintile groups. There are only 39 districts in the state. The present pattern should be different since beginning in 1968-69 the capacity measure was adjusted to include income as well as property value.

TABLE IV

CORRELATIONS BETWEEN EQUALIZED VALUATION PER PUPIL (V/P), "BASIC" SCHOOL TAX RATE (r), AND CURRENT EXPENDITURES PER PUPIL (e), NEW ENGLAND STATES

| | Simple correlation coefficients: | | | |
|---|---|---|---|---|
| | (V/P, e) | (V/P, r) | (V/P, 1/r) | (e, r) |
| Connecticut | +.54 | -.68 | +.75 | +.10 |
| Maine | +.54 | -.58 | +.81 | -.06 |
| Massachusetts | +.56 | -.60 | +.82 | +.04 |
| New Hampshire | +.57 | -.69 | +.88 | +.00 |
| Rhode Island | +.55 | -.56 | +.73 | +.10 |
| Vermont | +.40 | -.56 | +.71 | +.11 |

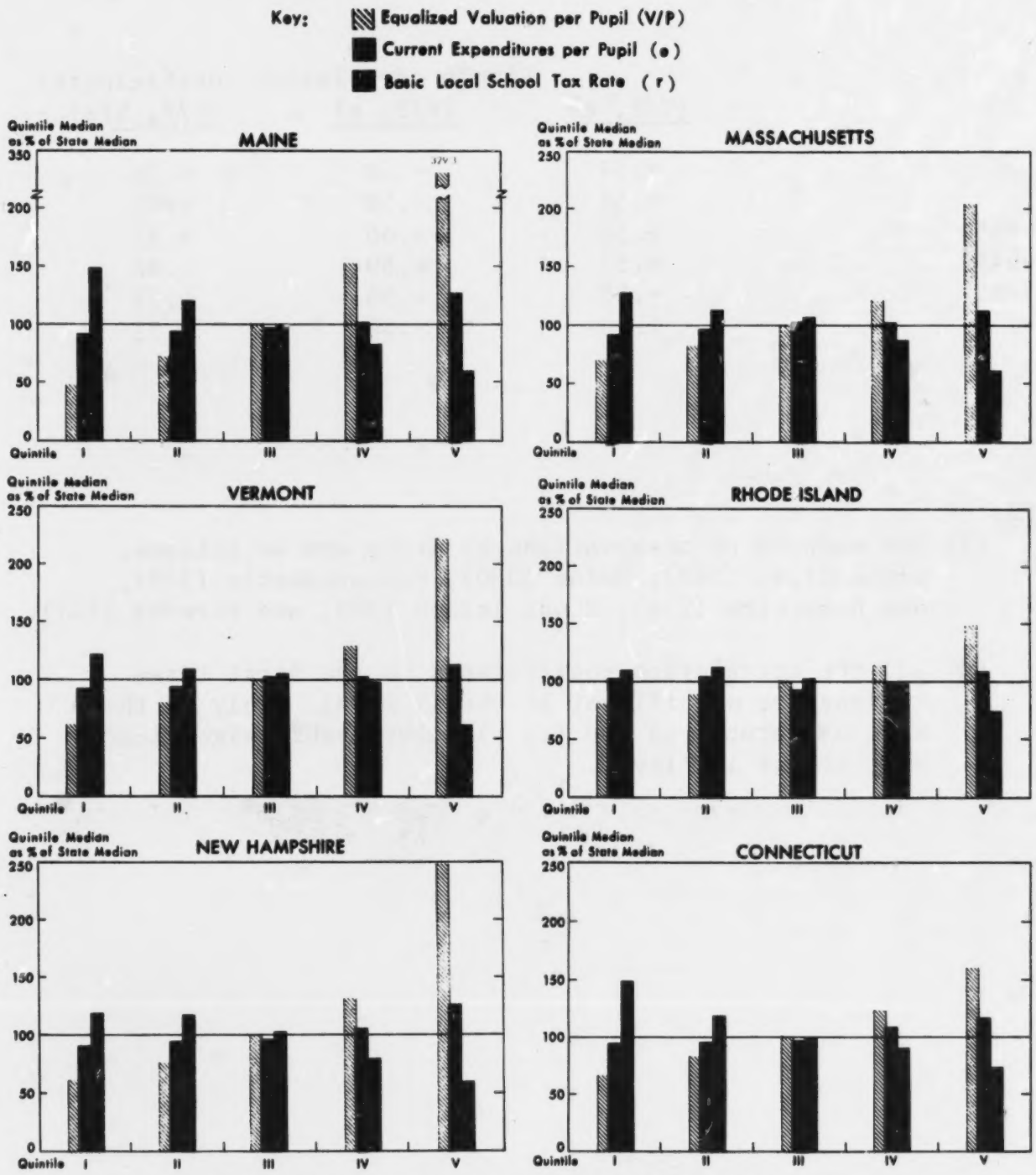
NOTES:

(1) The numbers of observations by state are as follows: Connecticut (169), Maine (330), Massachusetts (349), New Hampshire (234), Rhode Island (39), and Vermont (249).

(2) All the correlation coefficients in the first three columns are significant at the 1% level. Only in the case of Vermont is the (e, r) relationship significant even at the 10% level.

Figure III

PATTERN OF DISPARITIES IN EQUALIZED VALUATION PER PUPIL, CURRENT EXPENDITURES PER PUPIL, AND BASIC LOCAL SCHOOL TAX RATES, NEW ENGLAND STATES
(Median Values of Quintiles According to Valuation per Pupil Relative to State Median)




NOTE: THE CHARTS ARE BASED ON MEDIAN VALUES OF QUINTILES ACCORDING TO VALUATION PER PUPIL RELATIVE TO THE STATE MEDIAN.

In contrast to this present situation, an equitable system of public school finance would reward a community in proportion to its own effort to provide good schools, thus breaking the tie between local wealth and educational offering, the tie by which the present system binds some communities to inferior schools while capriciously rewarding others with educational excellence relatively painlessly achieved. Who could defend a state system where, for example, two districts have the same school tax rates but one provides three times the per pupil spending as the other, or, two districts spend the same amount per pupil but one levies school taxes at seven times the rate of the other? These are actual cases drawn from the data collected for this study. They are extreme examples, but they illustrate a pervasive pattern of inequitable disparities that affect individual localities in each state. The next sections will examine important features of existing school finance systems with a view toward discovering steps that might be taken in the direction of meaningful reform.

## III. THE LOCAL PROPERTY TAX

Any review of existing public school finance must begin with an examination of the local property tax. The property tax is the residual source of funds for local government services in every state, and public schools are the major single claimant on its revenue yield. The property tax is one of the oldest, most pervasive, and probably one of the most disliked of American taxes. It was the largest single tax source in the U. S. for most of the country's history; in the past several decades, however, its importance in the Nation's tax structure has declined gradually, and there has been much debate over the future of the property tax. Over the years, many critics have predicted the eventual demise of property taxation. In 1956, one expert delivered a prospective funeral oration:

> ...Over the next two decades, I would expect to see the property tax all but wither away. Relative decline is a foregone conclusion, but I would go beyond this and predict that in absolute terms the property tax is headed for oblivion... [In twenty years] the property tax will...have become an all-but-forgotten relic of an earlier fiscal age.[25]

While there is considerable regional variation in the burden of property taxes, as measured by effective rates, an important question is recurrently discussed: how high can property tax rates go before reaching a possible absolute limit of feasibility?

> With respect to economic limitations in property taxation, there is undoubtedly a breaking point, above which property taxes cannot go. But this point varies with respect to taxpayers' locations, timing, competing economic opportunities, and in other ways. There is no universally accepted limit.... There are places where the rate could probably be increased without serious difficulty...but in many areas--particularly in the large central cities--the tax

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[25]George W. Mitchell, "Is This Where We Came In?", National Tax Association (NTA), Proceedings (1965), pp. 492, 494.

may already have been pushed to, or beyond, the limits of feasibility.[26]

As the fiscal workhorse of local governments the tax has shown no signs of departing to the glue factory; in fact, with substantial growth in property values and continued increases in rates, it has shown remarkable revenue productivity. However, rumblings of a "tax revolt" and recent high voter rejection rates of local school-bond issues suggest that there is no reason to be sanguine about continued heavy reliance of school budgets on revenue from the property tax as it is now constituted. There are many ways in which the property tax and its administration could be improved, particularly through action by state governments. Theoretical objections to the property tax, in terms of its allocative and distributive effects and on other grounds, have led many tax experts to recommend that state and local tax structures be shifted away from the property tax and toward other types of taxation.[27]

A recent study showed that there is no general correlation between effective property tax rates and a state's total tax effort.[28] This suggests that in states where school finance is especially closely tied to

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[26]Mabel Walker, "Limitations of the Property Tax," NTA Proceedings (1963), pp. 409-10; for a discussion of regional and intraregional differences in effective rates, see Dick Netzer, Economics of the Property Tax (Wash.: Brookings Inst., 1966), Ch. V.

[27]See ACIR, The Role of the States in Strengthening the Property Tax, Vol. I (1963) for proposed reforms within the systems. A comprehensive economic analysis and evaluation of the tax is presented in Netzer, Economics of the Property Tax. For general discussion of the tax, see Tax Institute of America, The Property Tax: Problems and Potentials (Princeton: 1967), and Richard W. Lindholm (ed.) Property Taxation--USA (Madison: University of Wisconsin Press, 1967).

[28]ACIR, Measures of State and Local Fiscal Capacity and Tax Effort (1962), p. 123.

local property taxation there is considerable potential for improving public school finance procedures by developing alternative revenue sources and strengthening or revamping the property tax itself.

## IV. THE IMPACT OF STATE SCHOOL AID PROGRAMS

Even though public schools are locally run and the brunt of the financial burden falls on local government units in most states, school districts remain creatures of the states, and, legally, education remains essentially a state function and responsibility. Three "general and settled principles" have been clearly established:

> The state has plenary power with respect to taxation for schools. School taxes, whether collected by the state or the localities, are state taxes. The state retains discretionary power over the method of distribution of school funds.[29]

To date, only a handful of state governments have intervened in the financing of public schools to a really substantial degree.

State school aid programs vary widely in design and effect. The programs generally reflect several broad objectives. Many programs are designed to insure some minimum level of educational provision at reasonable "equalized" levels of local effort, reflecting a desire to relieve excessive local property tax burdens by injecting funds raised through more broadly based state tax sources. Another common objective of state school aid is to stimulate local education expenditures, for specific purposes or in general. There are inherent conflicts among these objectives, for example between equalization and stimulation of local spending levels. The conflict between the objective of stimulating local expenditures and the goal of property tax

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[29]Wise, Rich Schools, Poor Schools, p. 104. Wise notes that "the state itself may collect school taxes, or it may authorize school districts to collect taxes in its behalf... School districts are in fact an agency of the state... Therefore it is a misnomer to designate funds applied by the state as aid to the district." A court in Oklahoma suggested (in 1924) "designating funds raised locally as aid to the state" (pp. 105, 106).

relief has received much empirical study, with somewhat inconsistent results.[30]

The principal concern here is the impact that state school aid programs have on disparities in local school tax effort and current expenditures per pupil. Over the years, state governments have been moving generally in the direction of increased and more explicit emphasis on "equalization" in their school aid allocation; but local effort and spending levels are still closely related to local wealth. The following discussion gives some reasons why and notes the sharp contrast between "equalizing" school aid in theory and practice. As a working definition, state aid is considered "equalizing" to the extent that it reduces the impact of local wealth differentials on educational results in terms of per pupil spending.[31] The extent to which the state's contribution to public school finance actually has an equalizing effect depends both on the amount of state money budgeted and on the manner in which it is distributed.

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[30]Edward F. Renshaw, "A Note on the Expenditure Effect of State Aid to Education," Journal of Political Economy, Vol. LXVIII (April 1960), pp. 170-74, concluded that considerable substitution of state for local funds takes place, rather than net expenditure stimulation. Bishop, "Stimulation Versus Substitution Effects...," reached a similar conclusion, though he noted that the effectiveness of incentive programs appears to vary by type of community. George B. Pidot, Jr., "A Principal Components Analysis of the Determinants of Local Government Fiscal Patterns," Review of Economics and Statistics, Vol. LI (May 1969), pp. 176-88, found significant stimulation effects in state aid for education and other functions. A debate on this issue--but one focusing primarily on the relation between Federal aid and state-local spending--has been raging in the National Tax Journal recently; cf. articles and comments by Morss (March 1966), Osman (December 1966, December 1968), Pogue and Sgontz (June 1968), and Oates (June 1968).

[31]Coons, Clune and Sugarman, "Educational Opportunity...," p. 313. In Private Wealth & Public Education, Ch. 3, Coons, Clune & Sugarman develop and apply a lucid model for analysis of actual state systems according to equalizing, non-equalizing and anti-equalizing effects.

Methods of Allocating State School Aid[32]

If the state desires to guarantee a certain basic level of education for all school children and to minimize differences in local tax rates required for its support, then the allocation formula for state school aid must reflect differences in relative needs and fiscal capacity at the local level. A program designed to stimulate total education spending at the local level will also take the factor of effort into account, rewarding increased local support with additional state funds. Increasingly sophisticated methods of distributing aid funds have been advocated through the years, in keeping with growing awareness of existing problems and specificity of policy objectives, but actual practice has lagged seriously behind theoretical advances.

Flat Grants, consisting of fixed payments on some unit basis (e.g. per pupil, per teacher or per school district) were the earliest popular form of state school aid. Even with refinements to reflect differences in district need, such as paying larger amounts for secondary than for elementary school pupils, this method of allocation clearly discriminates in favor of wealthier districts, which can raise local funds more easily than their less affluent counterparts to support expenditures in excess of the flat grant level. All

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[32]Alternative procedures for distributing intergovernmental aid have been widely discussed. See, for example, Francis G. Cornell, "Grant-in-Aid Apportionment Formulas," Journal of the American Statistical Association, Vol. XLII (March 1947), pp. 92-104; Richard A. Musgrave, "Approaches to a Fiscal Theory of Political Federalism," in NBER, Public Finances: Needs, Sources and Utilization (Princeton: Princeton University Press, 1961), pp. 97-122. One of Musgrave's models was adapted and applied to the case of state school aid by Ronald F. Hoffman, "A Systematic Approach to a Practicable Plan for State Aid to Local Governments," Public Finance/Finances Publiques, Vol. XXIV, No. 1 (1969), pp. 1-28. For discussion of state school aid programs in practice, see Charles S. Benson, The Economics of Public Education (Boston: Houghton-Mifflin Co., 1961), Chs. 6 & 7; Robert J. Garvue, Modern Public School Finances (NY: Macmillan, 1969), Ch. 9; and especially the penetrating comprehensive analysis in Coons, Clune and Sugarman, Private Wealth and Public Education, Chs. 1-5.

that can be said in favor of the flat grant procedure is that it results in some lessening in the disparity of local tax effort, compared to a system of local support only.[33]

In practice, flat grants are ordinarily combined with categorical aid programs in support of specific functions. Categorical aid also discriminates in favor of the more affluent recipients if it is distributed on a unit basis by fixed-ratio matching of state and local funds. A state program of this type has no equalizing effects since it does not take account of relative ability to raise funds locally. Unless the total level of state support is quite high, large disparities in local effort and spending levels are inevitable.

"Foundation" plans are the most common forms of state school support today. A foundation plan essentially guarantees some minimum level of public school support for all districts, distributing state funds in a manner that explicitly compensates for disparities in local ability and takes into account differences in local needs. In its most rudimentary form, the foundation plan works as follows: (1) The state sets a target level of expenditures per pupil, e*; and (2) a minimum school tax rate, r*, that each locality must levy in order to qualify for foundation aid; and (3) state funds are distributed according to a formula such as the following, which assures that every district imposing school taxes at the mandatory rate will be able to spend at least the target amount per pupil:

$$S_i = e^*P_i - r^*V_i,$$

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[33]How much lessening will depend on the relative levels of state and local contributions to the system. If the state tax structure is progressive, poor districts would gain indirectly in the overall taxation-expenditure system even if the state uses only flat grants.

where $S_i$, $P_i$ and $V_i$ are the amount of state foundation aid received, the number of pupils, and the equalized valuation, respectively, of a given district. Thus, for example, if the state sets the foundation support level at $400 per pupil and the mandated local tax rate at 10 mills, every district that levies school taxes at a rate of 10 mills or more is assured of at least $400 per pupil in expenditures; whatever amount the district fails to raise locally at the 10 mill rate the state will make up in foundation aid. However, any spending in excess of the foundation level must be financed out of local revenues raised on an unequalized basis.

In practice, most state foundation plans are more complicated than this simple example. The complexities arise from alternative specifications of the measures of local need ($P_i$) and ability ($V_i$). Many states have built elaborate "weighting" factors into their foundation plan formulas in order to reflect cost differences related to district or school size, grade level composition, population density, number of classroom units, number and qualifications of teachers, salary schedules, etc.[34] Some states have modified their measure of local ability by employing a weighted index of property values and income.[35] Even in its most refined form, however, the

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[34]See, for example, Albert R. Munse, "Weighting Factors in State Foundation Programs," in Trends in Financing Public Education, pp. 56-62; Eugene P. McLoone, "Evaluating the Weighting Factors in Use," in Ibid., pp. 63-79; and Cornell, "Cost Differentials and District Size in State School Aid."

[35]Other states still base foundation aid payments on unequalized assessed valuations, thereby inspiring competitive underassessment by local assessors. When equalized valuation is employed, serious inequities can result if the data are not kept current; e.g. until several years ago, the Massachusetts plan distributed aid on the basis of 1945 valuations, a fact that gave great advantage to rapidly growing suburban areas. Similarly, Florida now employs an index of capacity which combines such figures as sales tax returns, employment, value of farm products, automobile registrations, and railroad and utility property, but still uses 1953 data.

foundation plan has serious deficiencies.

First, foundation support levels are often woefully inadequate, in many cases well below the spending levels that most districts support voluntarily, and state legislatures frequently fail to revise support levels upward in pace with rising costs. When the foundation level is unrealistically low, as is commonly the case, districts with relatively low fiscal capacity must still exert a disproportionately heavy local effort in order to provide an adequate educational program. The foundation support level is a sensitive political question, determined largely by expediency. All too often it is merely an "index of the largesse of the particular state government, not the job to be done."[36] One critic argues that the simple foundation plan approach to equalization exists in present "bureaucratic wonderlands" as a crude "substitute for knowledge about the budgetary needs" of schools.[37]

Second, the formula implies the possibility of negative aid (i.e. payments by the local district to the state) in cases where a rich district raises more than the foundation support amount by taxing itself at (or below) the mandated local tax rate. Since such redistribution is usually politically unpalatable, programs are generally designed to eliminate the possibility, either by adjusting the parameters of the formula or putting constraints on the outcomes. Negative payments are effected in only one state (Utah), and only to a minor extent. Some states guarantee a minimum payment to every district regardless of the formula results. When this is

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[36]Coons, Clune and Sugarman, Private Wealth and Public Education, Ch. 2.

[37]H. Thomas James, "Interdependence in School Finance: The City, The State, and The Nation," in Interdependence in School Finance: The City, The State, The Nation (CEF/NEA, 1968), p. 14.

done, the program operates with an implicit flat grant component which has no equalizing effect.

Third, state foundation programs often exist in combination with explicit flat grants paid to every district. In this case, the flat grant component of the overall state school aid program can actually have an anti-equalizing effect, favoring the richer districts.[38] In general, the total equalizing effect of a state's school aid budget can be seriously diluted if only part of the money is allocated on an "equalized" basis. State foundation plans are completely equalizing in effect only when the wealthiest district (1) taxes itself at the mandated local rate (r*); (2) spends no more than the foundation support amount (e*); and (3) receives no aid from the state.

Percentage Equalization Grants, alternatively called equalized percentage matching grants, represent the latest word in state school support techniques. Under a percentage equalization scheme, the attempt to support education at some basic unit cost level is abandoned in favor of a more flexible approach that effectively offers individual districts greater financial incentive and control and at the same time provides full equalization at any level of spending, rather than just at an arbitrary foundation level based on state-designated needs. This approach involves a formula, such as the one below, which determines for each district the percentage of public school expenditures that will be paid for by the state. This percentage, usually designated the "state aid ratio," varies inversely with relative local wealth:

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[38]For a lucid demonstration of this point, see Coons, Clune and Sugarman, Private Wealth and Public Education, Ch. 3.

$$\text{State Aid Ratio} = (\%S)_i = (1 - \text{wealth ratio for district } i)$$
$$= \left[1 - \left(\frac{\text{Capacity, district } i}{\text{Capacity, key district}}\right)\right].$$

If the wealth ratio is determined with respect to the richest district (according to whatever capacity measure the state employs), then the plan eliminates the wealth (ability) factor entirely as a determinant of district spending levels: the same local effort will generate the same expenditure level regardless of disparities in local wealth.

This method of aid allocation can be substituted for any existing combination of foundation plus categorical aid programs. A desirable simplification in administration can be achieved by such consolidation of programs. More importantly, greater overall equalization would result since many categorical programs have non-equalizing or anti-equalizing effects, as noted above.

The very admirable "pure" theoretical form of the percentage equalization method is, unfortunately, not realized in practice. To facilitate discussion by policy-makers, the plan is typically set up in a modified form: the state decides to pay some proportion of the school budget of the district of "average" wealth, and this "average" district becomes the "key" district in defining the wealth ratio in the formula. With these changes, the state aid ratio for any given district is determined as follows:

$$\text{State Aid Ratio} = (\%S)_i = \left[1 - \left(\frac{\text{Capacity, District } i}{\text{Capacity, "Avr." Dist.}}\right) Q\right],$$

where Q equals the proportion of its school budget that the "average" district must finance out of its own funds, i.e. the state decides to pay the proportion (1 - Q) of the budget incurred by the district of "average" wealth (where, of course, the "wealth ratio" in this formulation would be

unity).

It is possible, in this modified version, to select Q in such a way that aid payments will still be fully equalizing, as in the pure model.[39] However, the expected state share of statewide public school expenditures under such a program might be so large that the "pure" form becomes politically infeasible. One cause of resistance to unadulterated percentage equalization is the fear that relatively poor districts will stage a raid on the state treasury; "It has been demonstrated, however, that this is not likely under normal conditions."[40] Unless the modified formula is set up properly, negative aid payments will be required to retain the perfect equalization implied by the "pure" form; again, this is politically unlikely in practice.

In implementing the percentage equalization model, states have typically imposed constraints that substantially reduce the actual equalizing effects of the plan in practice. Among the devices that effectively impede equalization are constraints such as the following: (1) a guaranteed minimum state aid ratio, yielding some aid even for the wealthiest districts; (2) a ceiling level on the state aid ratio, preventing full equalization for less affluent districts; (3) a dollar maximum program level that the state will subsidize in each district; (4) limitations on the types of spending that the state will support; (5) state guarantees of minimum payments to all districts, with respect either to some absolute dollar figure or to aid re-

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[39]See Ibid., Ch. 5.

[40]L. L. Ecker-Racz and E. McLoone, "The State Role in Financing Public Schools," Education Digest, Vol. 34 (December 1968), p. 7.

ceived in a previous year (a "save harmless" clause); (6) prorating state funds when the state government fails to budget the full amount of aid that the formula implies; and (7) refusal to require negative payments when the formula requires them. Subject to modifications such as these, percentage equalization plans in practice hardly do any better in terms of equalizing effects than foundation plans. In implementation, the excellent theoretical plan is usually "adorned...with devastating refinements" to such a degree that it is reduced to merely "a labyrinth of false promises";[41] this result is generally quite intentional, reflecting political unwillingness to legislate a truly equalizing program.

Intention vs. Effect: State School Aid in New England

A review of the school aid programs in the six New England states provides some illuminating examples of problems that can be encountered in various types of state support programs. The data reported above (e.g. Table IV and Figure III) indicate that in none of the six states has state aid eliminated the inequitable dependence of school spending levels on local wealth. The results for the six states are fairly similar despite considerable variety in the state aid systems. Table V reveals differences in the relative magnitudes of the state commitments to supporting current expenditure programs and differences in the structures of the overall state school aid programs, as well as some indication of the proportion of state aid funds that are intended

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[41] Coons, Clune and Sugarman, "Educational Opportunity...," p. 316

Table V

GENERAL CHARACTERISTICS OF STATE SCHOOL AID PROGRAMS, NEW ENGLAND STATES

| | State Aid as % of Total Non-Fed'l Support of Current Exps. | Number of Separate Types of St. School Aid | % Distribution of State School Aid by Category: Basic Program | Capital or Debt Service | Other |
|---|---|---|---|---|---|
| Connecticut | 29% | 13 | 74% | 12% | 14% |
| Maine | 30% | 17 | 81% * | 9% * | 10% |
| Massachusetts | 19% | 6 | 67% * | 15% * | 18% |
| New Hampshire | 9% | 11 | 56% * | 29% | 14% |
| Rhode Island | 32% | 4 | 83% * | 10% * | 7% |
| Vermont | 35% | 5 | 82% * | 12% | 5% |

* Indicates that some degree of equalization is attempted in the allocation method.

Sources: Thomas L. Johns (compiler and ed.), Public School Finance Programs, 1968-69, U. S. Dept. of HEW, Office of Education (Washington:1969), OE-22002-69 (for all but first column), and data collected by the Federal Reserve Bank of Boston.

to be distributed in an equalizing manner.[42]

Every state except Connecticut makes some attempt to achieve equalizing effects in its method of allocating funds for support of the basic program of current expenditures. Connecticut's basic program aid consists of a system of flat grants allocated essentially on a per pupil basis, with no equalizing effects. It is apparent, therefore, that the relatively low variation in school tax effort and spending levels in Connecticut is a fortuitous result of comparatively small inter-district wealth disparities rather than state action (cf. Table III). In the Connecticut allocation, a bonus is given to smaller districts. This is done presumably to compensate for diseconomies of small scale, but the procedure is open to objection on the grounds that inequalities may be aggravated in specific cases, and district consolidation in the interest of efficiency may be discouraged. Four of the New England states include in their state school aid programs some kind of incentive for consolidation of small districts.

New Hampshire, Vermont and Maine all have variations of the foundation plan. The level of foundation support is quite low in New Hampshire--e.g. only $300 per high school student as compared with $406 in Maine and $743 in Vermont--a reflection of the state's extremely low commitment to basic program aid.

Maine is one of three New England states that distributes capital

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[42] Intent is determined here on the basis of program descriptions. See Thomas L. Johns (compiler and ed.), Public School Finance Programs, 1968-69, U. S. Department of Health, Education and Welfare, Office of Education (Wash.: 1969), OE-22002-69. It must be emphasized again that labels and intent are not necessarily translated into equalizing effects, as the results show.

assistance funds in an equalizing manner. The state pays anywhere from 18 to 66 per cent of construction costs, the proportion for any particular district varying in relation to equalized valuation per pupil.[43] The equalizing effect of this aid program is not reflected directly in the data used in this study, but it is obviously important to individual districts. Other things being the same, equalizing features in capital and debt service aid programs should contribute to overall equalization effects in the total school aid program.

The "Other" types of aid programs are generally categorical grants designed to aid specific functions, such as pupil transportation, education of handicapped students, vocational education, and other activities including (in Connecticut and Rhode Island) programs for disadvantaged children. These programs, in effect, make some adjustment for cost differences beyond the basic program, but the funds involved are not distributed on an equalized basis, and an opportunity for enhancing equalization in the total state school aid is therefore lost.[44]

The basic programs for current expenditures in Massachusetts and Rhode Island are of particular interest because they are both adaptations of the theoretically preferred percentage equalizing model. The Massachusetts allocation procedure is a grotesque example of a labyrinthian system that

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[43]By contrast, the "equalizing" feature of Massachusetts' capital aid involves variation only within the narrow range of 40-50%, depending on equalized valuation per pupil.

[44]In Massachusetts the state pays all transportation costs in excess of $5 per pupil; the program, which has undoubtedly stimulated spending for transportation, comprises almost 8½% of total school aid paid by the state. While there is some merit in state subsidies to assist necessary functions, there is no reason why the subsidy cannot be provided on a variable matching basis to reflect ability to pay.

almost defies comprehension, not to mention concise description.[45] The program embodies a good number of the defects listed above that can reduce the equalization effects of an otherwise excellent model as the political process implements a drastically constrained version. In the Massachusetts case, the equalization potential is reduced at the outset because only a limited portion of expenditures from local revenues are eligible for reimbursement. Several additional adjustments are made on "reimbursable expenditures," and a minimum state aid ratio of 15 percent is guaranteed to all districts.[46] The resultant "entitlement" is subject to two further modifications, and then the final figure is ultimately prorated to satisfy the constraint imposed by the state budget.

The Rhode Island formula is considerably less complex, but it too has serious weaknesses compared to the "pure" percentage equalization model. The procedure is open-ended (i.e., no ceiling is imposed on the amount of spending that the state will aid), but the equalizing effect of the state assistance is seriously diluted by a guarantee that the state will pay at least 30% of the costs incurred by any district, even the richest. Districts with "true" aid ratios under 30% can gain more funds at any level of effort, and the open-ended feature makes it possible for them to exploit this advantage to any desired spending level. Note that the pure form of the percentage

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[45]See the comprehensive analysis by Andre Daniere, Cost Benefit Analysis of General Purpose State School-Aid Formulas in Massachusetts (Massachusetts Advisory Council on Education, 1969).

[46]Daniere indicates that the unconstrained formula yields state aid ratios under 15% for almost one-fourth of the localities in the state, and two-thirds of these would get a negative aid ratio in an unconstrained system.

equalization model implies (i) no relation between local wealth and spending, and (ii) a strong, positive relation between effort and spending. By contrast, in the two New England states where school aid is distributed on the basis of modified percentage equalization formulas, neither of these relationships appears; instead, spending is closely related to local property values per pupil, and greater tax effort generally does not result in higher spending levels.[47]

The net impact of a total state school aid package on the overall distribution of state funds among districts is difficult to predict because of the number of interacting relationships and the combination of different programs involved. The following are simple correlation coefficients between equalized valuation per pupil (V/P) and state aid per pupil in support of current expenditures (S/P):

| | | | |
|---|---|---|---|
| Connecticut | .00 | New Hampshire | -.51 |
| Maine | -.34 | Rhode Island | -.08 |
| Massachusetts | +.04 | Vermont | -.52 |

A significantly equalizing state system would produce a strong inverse correlation between these variables. As would be expected, Connecticut's flat grant system yields no equalizing effects by this test. State school aid in Rhode Island has some very weak equalizing effects. The Massachusetts program actually has a tendency to yield perverse results--a positive re-

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[47]See the correlation coefficients for Massachusetts and Rhode Island in Table IV.

lationship between ability and state aid per pupil.[48] Beginning this year, however, the results in Massachusetts should be improved because of a legislative decision to fully fund the state school aid formula, implying an increase of about 17 percent in the school aid budget. (The increase will be financed largely by shifting funds from the non-equalizing general state aid program.)

Equalizing effects appear strongest in Vermont and New Hampshire. In New Hampshire, only a small state aid fund is distributed, but it is distributed in a strongly equalizing way; if the program were fully funded, it could have very significant effects. The true test, however, is in the final relationships between wealth, effort and spending levels that have been reported earlier in Table IV and Figure III. The results suggest that among the New England states Vermont's plan, with a relatively high state contribution focused primarily in a foundation program with high support levels, does about the "best" job in reducing the dependence of spending levels on local wealth; however, effort is still closely tied to local wealth, and increased local effort does not bring significant positive returns in higher spending levels. Rating the different state programs on the basis of equalizing effects is complicated by the fact that intra-state

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[48] A similar test in ACIR, State Aid to Local Government, p. 48, yielded a similar positive relationship for the overall Massachusetts school aid program (i.e., including capital as well as current programs). Joel S. Weinberg, in a report recommending a percentage equalizing plan for Massachusetts in 1962, estimated that a properly implemented "pure" plan would yield a correlation between per pupil aid and ability of -.97, but that inclusion of a "save harmless" clause and minimum and maximum constraints on state support levels would reduce the correlation to -.47. State Aid to Education in Massachusetts (New England School Development Council, 1962), p. 42. Apparently such modifications can have a very damaging effect!

wealth disparities are relatively much greater in some states (cf. figures for Maine and Connecticut in Table III.) Nevertheless, it appears that a new program soon to be introduced in Maine promises to have greater equalizing effects than any system presently existing in the region.[49]

The charts in Figure IV show that, with few exceptions, regardless of the allocation pattern of state aid per pupil in relation to local wealth in the different states, expenditure levels are still primarily related to local ability to raise revenues. The simple correlation between per pupil current expenditures and local funds is lowest in Rhode Island and Vermont, at +.60 and +.76, respectively; in the other states the relation is stronger, with correlation coefficients ranging from +.89 (Maine) to +.96 (Connecticut). This will remain true as long as the states resist assumption of a meaningful commitment to equalization or local contributions comprise the major portion of total school expenditures.

## Analysis of Hypothetical Equalizing State Aid Systems

What would happen if state legislatures decided to reform their school aid programs in order to make possible effective equalization of public school spending levels and corresponding local school tax rates? This section presents the results of calculations based on models of school aid systems that could yield these results. Actual New England data are used as the basis for analyzing two types of systems which, if applied in "pure" form, could eliminate intra-state disparities in local school tax effort

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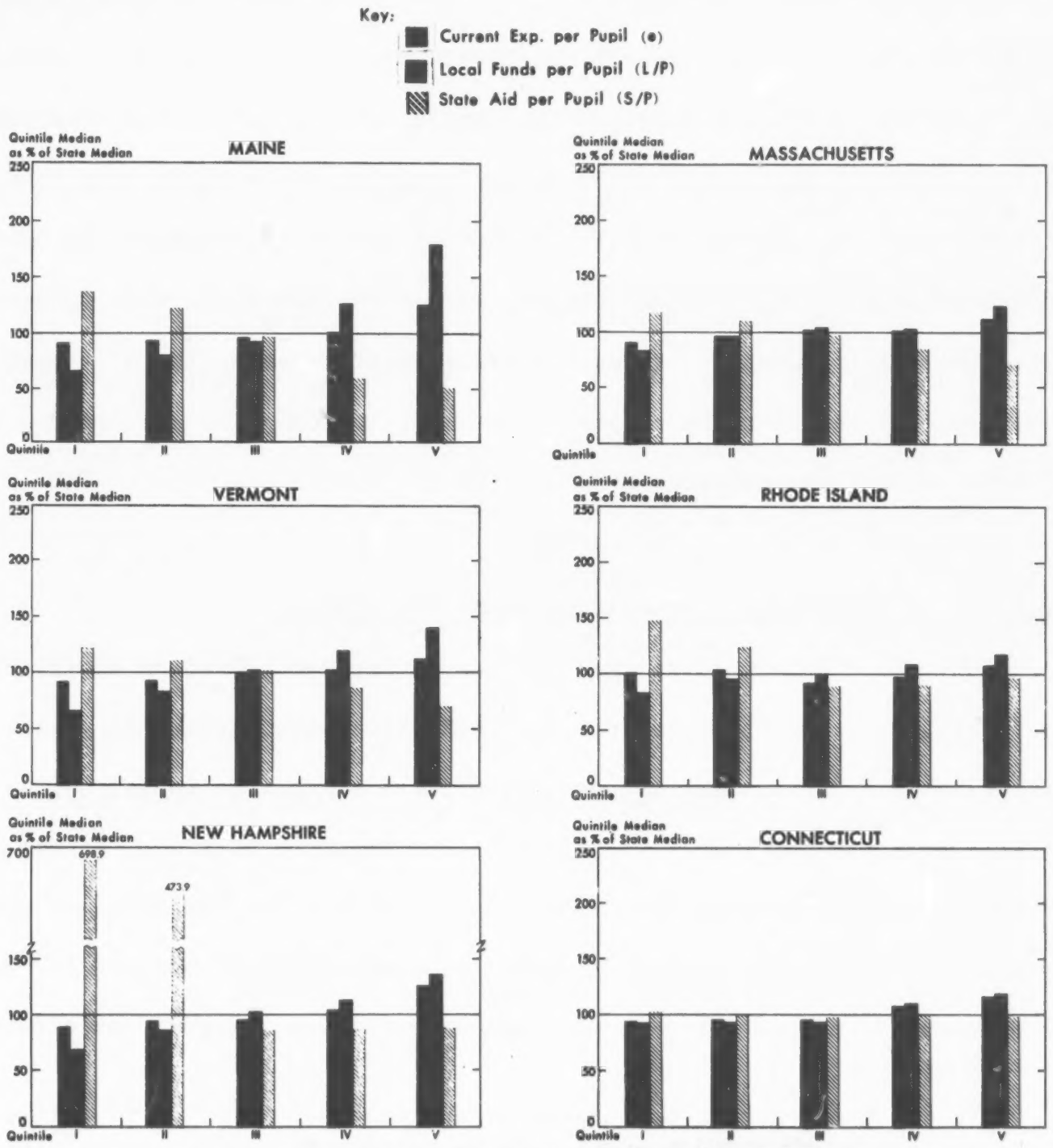
[49]Under the new plan basic program aid will vary from $4 to $411 per pupil in inverse relation to equalized valuation per pupil, and supplementary state aid for special needs will be provided also on a strongly equalizing basis, with the state share ranging from 13% to 97%.

Figure IV

PATTERN OF CURRENT EXPENDITURES PER PUPIL (e)
RELATED TO PER PUPIL FUNDS FROM LOCAL SOURCES (L/P) AND
FROM STATE AID (S/P), NEW ENGLAND STATES
(Median Values of Quintiles According to Valuation per Pupil Relative to State Median)




NOTE: THE CHARTS ARE BASED ON MEDIAN VALUES OF QUINTILES ACCORDING TO VALUATION PER PUPIL RELATIVE TO THE STATE MEDIAN.

and levels of current expenditures per pupil: (1) percentage equalization grants;[50] and (2) a state-wide property tax. The results of these systems are analyzed in the context of "pure" systems keyed to alternative policy targets. Results were also obtained for the same systems operating under a variety of constraints that are likely to be found in the real world, such as budgetary constraints on state school aid, political decisions to guarantee some aid to every jurisdiction, and legislative inhibitions against requiring negative aid payments by wealthy districts (redistribution).

Several limitations of the specific procedures utilized here must be admitted at the outset. First, the calculations are based on state objectives of equalizing current expenditures per pupil at some given level (denoted as e*).[51] Unless the state provides equalized aid up to a level of e* that no district would choose to exceed voluntarily, the actual expenditures of some districts might be higher than the equalized level, and such voluntary "excess" spending would not be attained on an equalized basis. On the other hand, some districts might prefer a low school tax rate and choose to spend less than the equalized amount per pupil. In short, the calculation procedure neglects the substitution and stimulation effects of increased or

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[50]It must be emphasized at the outset, as discussed below, that the form of percentage equalization plan considered in this section is a special case since it is keyed to a particular spending level. The more general percentage equalization approach provides fully equalizing aid at any spending level.

[51]In the present context, i.e., analyzing equalizing aid up to a specific expenditure level, these two models can be set up so that they are interchangeable in practical effect. The different forms are used because they represent distinct actual or proposed systems and because each offers specific advantages in reflecting policy objectives and constraints. For an algebraic formulation of the models analyzed here, see Appendix II. In all the following calculations, Federal aid is neglected.

redirected state aid.[52] The assumption that districts will spend at the equalized level is adequate for the present purposes of analyzing the effects of a hypothetical program for effective equalization. An important point to remember when interpreting the results is that if the target spending level is too low, inequities will creep back into the system unless the state is committed to full equalization beyond as well as up to the target level.

The procedure is crude to the extent that it does not incorporate any attempt to compensate for differences in spending requirements among districts. No attempt is made to adjust the allocations for such factors as grade-level composition, number of disadvantaged children, etc.; the target is to equalize a single level of spending per pupil. Similarly, no refinement in the measure of ability to pay was attempted; equalized valuation per pupil was used throughout. These limitations are not so serious as they may appear at first. For one thing, specialists are not agreed on exactly how adjustments in the formula should properly be made. Failure to refine the hypothetical systems should not seriously affect comparisons among them or between them and the existing systems.

The fact that the models analyzed here focus on the objective of strict equalization of local spending levels and school tax effort should not be construed as an espousal of those particular criteria for public school finance systems. The calculations are intended merely for illustrative

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[52] See references cited in footnote 30 and James, Thomas and Dyck, Wealth, Expenditures, and Decision-Making for Education, Chs. 2, 5. It is possible to perform simulations that do take account of these effects, by assuming some uniform response by districts to changes in state aid. See Daniere, Cost Benefit Analysis of General Purpose State School-Aid Formulas in Massachusetts.

purposes. Indeed, as the discussion, below, of proposals for reform makes clear, an equitable system can tolerate--even encourage--local differences in levels of spending and effort, but just so long as such differences are voluntary and not the result of wealth disparities.

Model I: STATE-WIDE PROPERTY TAX[53]

Current school expenditures could be financed through the proceeds of a state-wide property tax, with a uniform tax rate (r*) set at the level necessary to finance a policy-determined level of current expenditures per pupil (e*). The required tax rate would vary directly with the target level of e* established by the state. This plan requires payment to the state of excess property tax collections by districts that generate (at the uniform tax rate) more than the amount needed to finance the target program for their resident pupils. This excess revenue would be redistributed by the state to districts that fail to raise the required money at the uniform rate. The program could be financed entirely through local taxation. Some results of this program are illustrated in Table VI for New Hampshire. Figures are shown for values of e* equal to the present median, 80th per-

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[53]Cornell, "Grant-in-Aid Apportionment Formulas," analyzes various models using the criteria of attaining a minimum service level (e*) with uniform effort (r*) for all jurisdictions. Adopting similar criteria, Hoffman, "A Systematic Approach to a Practicable Plan for State Aid to Local Governments," shows that under certain assumptions a plan similar to the model described here (or Model II, below) yields a social welfare optimum. Musgrave, "Approaches to a Fiscal Theory of Political Federalism," examines comparable plans and alternatives in a consistent analytical framework.

Table VI

STATE-WIDE PROPERTY TAX, 100% LOCAL FINANCING, NEW HAMPSHIRE

| | Target Expenditure Level (e*) | | |
|---|---|---|---|
| | Median | 80th %ile | "Max." |
| Value of e* ($) | 509 | 611 | 891 |
| Mean ($e^* - e_i$) | -25* | +77 | +357 |
| Median ($e^* - e_i$) | N.A. | +102 | +382 |
| Uniform Tax Rate (r*) (mills) | 19.9 | 23.9 | 34.8 |
| Mean ($r^* - r_i$) | +1.3 | +5.3 | +14.7 |
| Median ($r^* - r_i$) | +1.1 | +5.1 | +14.4 |
| % of Districts with Excess Revenues | 42% | 42% | 42% |

Notes:

* In all six states, the median $e_i$ is less than the mean.

N.A. = not applicable.

centile and "maximum"[54] levels of current expenditures per pupil in the state. Some measures of the equalization effects are provided by the mean and median changes in individual district current expenditures per pupil ($e^* - e_i$) and school tax rates ($r^* - r_i$)[55] and by the proportion of districts making payments to the state for redistribution (% of districts with excess revenues).

Since this system is entirely locally financed, substantial tax rate increases would be needed to boost spending to relatively high levels.[56] Of course, increases would be extremely large for the wealthiest districts which now enjoy very low rates, and present high-taxing localities would experience rate reductions.

The state may alternatively choose to focus on equalizing school tax rates at a particular level and then redistribute state-wide property tax revenues to finance whatever spending level is possible at the tax rate target. For example, if all New Hampshire localities were required to exert a tax effort at the present 80th percentile rate level (23.1 mills), current expenditures per pupil of $590, about 15 percent above the present median level, could be financed on an equalized basis entirely out of local funds.

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[54]The "maximum" levels specified in the calculations are not necessarily actual maxima in all cases, because "freak" cases were dropped. Similarly, the "richest" district specified in subsequent models is not necessarily the one with an actual maximum per pupil valuation.

[55]$e_i$ and $r_i$ represent actual present current expenditure per pupil and school tax rate figures for individual districts.

[56]The necessary increases are somewhat overstated since Federal funds are included in determining target levels but are excluded in determining the required tax rate.

Model II: STATE-WIDE PROPERTY TAX PLUS FIXED STATE AID

A system closer to the real world needs and actual conditions would require state funds to supplement the revenue yielded by a uniform school tax rate. It could operate essentially in the same way that Model I does, except that state money would be added to the excess local tax collections used for redistribution. The state could again set a target in terms of either spending levels or tax rates, and the other would be determined.

Table VII shows some results for programs of this type in Massachusetts. The calculations were made assuming a policy objective of equalizing current expenditures per pupil (out of state and local funds) at the present 80th percentile level. In order to evaluate the effect of an increase in state equalizing aid, results are compared assuming state funds are contributed in amounts (i) equal to existing school aid for current purposes,[57] and (ii) twice that amount. The table shows that doubling state aid and focusing the total amount in an equalization program would yield higher equalized spending levels at a lower tax effort for most districts. Of political interest, perhaps, is the fact that one sure way for the state to lessen required inter-district redistribution of funds is to enlarge its own contribution.

If, alternatively, Massachusetts maintained its present aid commitment, channeled the entire amount into equalizing basic program support, and adopted a policy of requiring a uniform tax rate at the present 80th percentile level of effort, the median increase in district per pupil expenditures would be $161, and spending would be equalized at $827, with 24 percent of the districts paying money into the state. The additional funds to

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[57]Existing school aid for current purposes according to the data gathered for this study.

Table VII

STATE-WIDE PROPERTY TAX
PLUS STATE FUNDS, MASSACHUSETTS

| | Amount of State Funds | |
|---|---|---|
| | (i) Existing Level ($130 million) | (ii) Twice Existing Level ($260 million) |
| Target e* at 80th Percentile Level | 769 | 769 |
| Mean $(e^* - e_i)$ | +75 | +75 |
| Median $(e^* - e_i)$ | +103 | +103 |
| Uniform Tax Rate (r*) | 25.6 | 20.6 |
| Mean $(r^* - r_i)$ | +3.7 | -1.3 |
| Median $(r^* - r_i)$ | +3.3 | -1.7 |
| % of Districts with Excess Revenues | 24% | 15% |

support this program would come from local sources, primarily from relatively affluent districts required to increase their tax effort substantially above current levels. At the other end of the present spectrum, the least affluent jurisdictions would be able to increase per pupil expenditures far beyond what they could achieve under the existing system even by taxing themselves at very high rates.

Results for other states are similar: present disparities in school tax effort and spending per pupil can be relieved by a program of straightforward equalization, as long as the state commits itself to this objective by increasing its own contribution, or requiring redistribution of funds, or both.

The redistribution feature can be quite crucial. Suppose that the state decides upon an equalization program of the Model II form but is reluctant to require redistributive transfers. It may attempt to get around this political problem as follows. It can set the uniform tax rate at a level that would provide the wealthiest district with sufficient funds, but no more, to finance its own program at the target expenditure level. No redistribution will be required, since not even the wealthiest district has excess revenues. Applying this approach in Massachusetts, and assuming a target $e^* = 769$ as in Table VII, the uniform tax rate would be set at 2 mills, less than one-tenth of the present state average (the "richest" district has a per pupil equalized valuation over 100 times as large as the state average). Since the uniform tax rate is set so low to avoid redistribution, the required local contribution will fall drastically, implying a correspondingly huge increase in state funds. In this case, the state would have to increase its aid fund by a factor of 5.8 to $755.7 million, or else abandon or redesign

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the plan. It would no doubt select one of the latter alternatives.[58]

It is not uncommon that a state equalization plan looks fine on paper, only to be spoiled in practice because of a state budget constraint that forces prorating of available funds. The calculations summarized in Table VIII indicate the range of effects that prorating can have on an otherwise well designed equalization system. For each of the New England states, the required state contribution for a fully funded program to equalize current spending per pupil at the 80th percentile level was calculated, along with the implied uniform tax rate. The state contribution was reduced proportionately (in total and across districts) to a level approximating the actual state school aid budget. Receiving less state aid than the fully equalizing amount, districts react by adjusting their own tax effort and spending. In the most likely event, unless the state imposes effort or spending requirements in spite of prorating, tax rates and spending levels will diverge from the intended state targets. The possible results are analyzed in Table VIII by considering the effects under two extreme assumptions about district responses: (A) the target e* is maintained, causing full adjustment by changes in tax rates; (B) the uniform tax rate target, r*, is maintained, and adjustment comes entirely through per pupil expenditure changes. The state might decide to enforce either result; otherwise, the final position of the individual districts will lie somewhere between the two extreme cases, with neither equalization target attained. In any event,

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[58]The Massachusetts case is extreme, owing to the disproportionately high valuations per pupil of the "richest" district. The comparison would be still more extreme in New Hampshire. For the other states, the ratio of state costs in a similar program (e* = 80th percentile level, r* set so at to avoid redistribution) to costs in the unconstrained version (where redistribution is accepted, as in Table VII) are as follows: Connecticut--2.3; Maine--4.4; New Hampshire--12.4; Rhode Island--2.7; Vermont--2.9.

TABLE VIII

EFFECTS OF PRORATING EQUALIZATION FUNDS
(Model II Plan, with e* = 80th Percentile; r* = Median)

| | Connecticut | Maine | Massachusetts | New Hampshire | Rhode Island | Vermont |
|---|---|---|---|---|---|---|
| Target e* ($) | 714 | 490 | 769 | 611 | 613 | 646 |
| Uniform r* (mills) | 14.0 | 28.6 | 22.3 | 18.8 | 11.7 | 12.0 |
| % of Districts with Excess Revenues | 6% | 14% | 18% | 26% | 8% | 12% |
| State Aid Required for Full Funding ($ million) | 141.8 | 42.9 | 216.6 | 17.1 | 37.5 | 30.2 |
| Actual State Aid ($ million) | 115.0 | 22.7 | 130.0 | 5.3 | 26.5 | 18.5 |
| Prorating Factor | 0.81 | 0.53 | 0.60 | 0.31 | 0.71 | 0.61 |
| Case A = Full Adjustment by Change in Tax Rate ($e_i^* = e^*$) | | | | | | |
| Mean (Actual $r_i'$) | 16.1 | 48.4 | 27.0 | 25.3 | 14.4 | 17.3 |
| Median (Actual $r_i'$) | 16.0 | 44.8 | 27.2 | 24.4 | 14.5 | 17.1 |
| Average % Deviation of Actual $r_i'$ from r* | +15% | +69% | +21% | +34% | +27% | +44% |
| Case B = Full Adjustment by Change in Spending ($r_i^* = r^*$) | | | | | | |
| Mean (Actual $e_i'$) | 664 | 424 | 717 | 569 | 548 | 551 |
| Median (Actual $e_i'$) | 657 | 364 | 660 | 483 | 533 | 515 |
| Average % Deviation of Actual $e_i'$ from e* | -7% | -13% | -7% | -7% | -10% | -14% |

inequalities are reintroduced.[59]

Model III: PERCENTAGE EQUALIZATION WITHOUT REDISTRIBUTION

The percentage equalization model tested here is not the "pure" form discussed earlier because rather than being open-ended it represents a method for financing a specific level of per pupil expenditures. As in the unconstrained versions of the previous models, target levels of e* and r* are co-determined and are perfectly equalized for all districts.

In order for the percentage equalization method to work without entailing any inter-district redistribution, the state must be prepared to pay for a fully equalizing system out of its own tax resources. Aid will be paid to all but the "richest" district. When wealth disparities are substantial, this requires a very substantial state commitment.

Figures in Table IX, based on a target e* at the 80th percentile level, show the results of Model III in Maine (where wealth disparities are very substantial) and Connecticut (where wealth disparities are significantly less).[60] In Connecticut, state aid would have to more than double, and in Maine a more than four-fold increase would be required. As state funds replace local revenues in a completely equalizing manner, local tax rates plummet, and the state assumes a large share of the burden of financing the target spending level.

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[59]If the state were sincerely dedicated to equalization at some level, it could explicitly concede its budgetary shortfall and reset its sights on a different target--equalization of a lower level of spending.

[60]Cf. Table III.

Table IX

PERCENTAGE EQUALIZATION,
MAINE AND CONNECTICUT

| | MAINE | | | CONNECTICUT | | |
|---|---|---|---|---|---|---|
| | | Model IV | | | Model IV | |
| | Model III | Q = .50 | Q = .75 | Model III | Q = .50 | Q = .75 |
| Target e* at 80th Percentile Level | 490 | 490 | 490 | 714 | 714 | 714 |
| Present State Aid for Current Expenses (S) ($ million) | 22.7 | 22.7 | 22.7 | 115.0 | 115.0 | 115.0 |
| State Aid Required for Program (S*) ($ million) | 98.4 | 53.3 | 26.3 | 266.2 | 221.0 | 110.5 |
| % Change in (S) | +333% | +135% | +12% | +127% | +93% | -4% |
| Median State Aid Ratio (State Share of Program) | .94 | .62 | .44 | .66 | .58 | .36 |
| Local Tax Rate, r* | 3.9 | 23.6 | 35.5 | 8.2 | 10.3 | 15.5 |
| Mean ($r^* - r_i$) | -26.9 | -7.2 | +4.6 | -6.5 | -4.4 | +0.8 |
| Median ($r^* - r_i$) | -25.0 | -5.2 | +6.6 | -5.8 | -3.7 | +1.4 |
| % of Districts with Excess Revenues | 0 | 14% | 24% | 0 | 2% | 11% |

Model IV: PERCENTAGE EQUALIZATION, WITH REDISTRIBUTION

As noted above, implementation of percentage equalization systems is usually based on an objective expressed in terms of the state reimbursing some set proportion of the expenditures of a district with "average" wealth. The formula's wealth ratio is defined with respect to the "average" district, and the state finances a proportion (1 - Q) of this district's budget. Unless certain conditions pertaining to the intra-state distribution of wealth in relation to the chosen value of Q are met, inter-district redistribution of funds will be required in order to preserve the fully equalizing property of the original formulation.[61]

Table IX includes the results of applying Model IV with two values of Q (Q = .50, Q = .75, implying, respectively, that the "average" district must pay 50%, 75% of its budget for the target program) to Maine and Connecticut, with the same equalized spending level used to illustrate Model III. In this formulation, where wealth ratios are defined with respect to the "average" district, the total state share in the program is effectively reduced, and quite sharply. This model, compared to Model III, causes a substitution of local for state funds. The required local tax rate rises, and wealthier districts must pay over "excess" revenues to the state for redistribution. As Q--the share of program expenditures that the "average" district must pay--is increased, a higher local effort is required of all districts and the state relies more heavily on inter-district transfers, rather than its own revenues, to finance the program.

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[61]In order for no redistribution to be required, Q must be selected so that the maximum wealth ratio is no greater than 1/Q. See Coons, Clune and Sugarman, Private Wealth and Public Education, Ch. 5.

The figures in Table X, which are directly comparable with the column in Table IX for Q = .75, illustrate the types of changes that can result from political constraints being introduced into a percentage equalization scheme. The three specific constraints analyzed are: (1) no redistribution tolerated--the state aid ratio (%S) is constrained to non-negative values (%S≥0); (2) guaranteed minimum state aid ratio--no district receives less than a 20% subsidy from the state for its target program (%S≥0.2); (3) maximum permissible state aid ratio--no district, no matter how poor, receives more than an 80% subsidy in the plan--(%S≥0.8). The impact of these constraints can be gauged roughly by comparing the respective results in Tables IX and X.

The prohibition of inter-district redistribution has the expected effect of increasing the required state contribution; this occurs because the state must replace the funds that the wealthiest districts are no longer required to pay in. For the same reason, variation in the required local tax rate ($r_I^*$) reappears: again, the benefit accrues to wealthy districts that can finance the target program at a relatively low tax rate. The same effects appear when a floor is placed under the state share, and, of course, the magnitudes of the changes are greater, and more districts are protected by the system--protected in the sense that their lower "true" state aid ratios are not effective. The maximum state share constraint has minimal effect in the specific case tested. Under percentage equalization plans of the Model III type, this form of constraint would have more marked effects. The burden of the constraint would be borne by the least affluent districts, which would not receive the full equalization benefit that an unconstrained version of the plan would require.

## Table X

### CONSTRAINED PERCENTAGE EQUALIZATION, MAINE & CONNECTICUT

(Constraints on State Aid Ratio [%S] in Model IV, Q = .75)

| Constraints | MAINE | | | CONNECTICUT | | |
|---|---|---|---|---|---|---|
| | No Redistribution (%S ≥ 0) | Minimum State Share (%S ≥ 0.2) | Maximum State Share (%S ≤ 0.8) | No Redistribution (%S ≥ 0) | Minimum State Share (%S ≥ 0.2) | Maximum State Share (%S ≤ 0.8) |
| Target e* at 80th Percentile Level | 490 | 490 | 490 | 714 | 714 | 714 |
| State Aid Required for Program ($ million) | 34.3 | 40.2 | 26.3 | 123.9 | 147.6 | 110.5 |
| Required Local Tax Rate ($r_i$*) | | | | | | |
| Mean ($r_i$*) | 32.0 | 30.7 | 35.6 | 15.2 | 14.6 | 15.5 |
| Median ($r_i$*) | 35.5 | 35.5 | 35.5 | 15.5 | 15.5 | 15.5 |
| % of Districts Affected by Constraint | 24% | 33% | 2% | 11% | 30% | 1% |

## V. THE FEDERAL ROLE IN PUBLIC SCHOOL FINANCE

Almost every state has accepted equalization of educational spending and tax burdens as a goal of its public school finance system. This stated objective is clear even though programs to implement it have generally failed miserably in terms of practical effects. The objectives of Federal aid to public schools are quite different. To the limited extent that equalization is a goal, the concern is for equalization between states. In design, intention, and methods of allocating funds, Federal grant programs have almost nothing to do with ameliorating intra-state disparities.

Most Federal grants for public schools are designed to stimulate spending for specific policy objectives or to assist in meeting particular needs at the district level. "The existing arsenal of many-sized, heterogeneous aids, diverse in purpose and structural detail, is clearly not a system tied together by any central purpose more specific than serving the pragmatic and changing needs of a Federal partnership...."[62] In the present context, it is especially important to note that Federal grants for public schools are not designed in any consistent way to relieve or compensate for disparities in ability to pay for schools:

> ...Equalization is necessarily a secondary and, in some respects, an irrelevant criterion when applied to operating results of the complex of existing programs....
>
> ...The focus of existing grants, insofar as there is a common focus, is on service standards, not personal incomes....
>
> ...Identification of states as rich or poor, high-income or low-income, and evaluation of their aggregate shares of

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[62] I. M. Labovitz, "Federal Assistance to State and Local Governments," in Tax Institute of America, Federal-State-Local Fiscal Relationships (Princeton, 1968), pp. 29-30.

> Federal aid on this basis, may omit factors that are crucial for policy assessments....[63]

Federal aid to public schools is channeled through a wide variety of programs administered by numerous different Federal departments and agencies. In all but a few programs the funds are paid to the states, which then distribute their allotments to individual districts or to programs operated by the state education departments. Every program has a number of "strings" attached. In order to qualify for Federal aid money, state and local governments must satisfy specific conditions written into the law, and the states usually must contribute funds from their own sources according to matching requirements that vary from program to program. Under any particular grant program, the distribution of funds among the states depends upon whether (and how) measures of needs, capacity and effort enter the allocation procedure, as well as the nature of whatever strings may be attached. A brief review of the major Federal aid programs applicable to public schools will illustrate the differences in purposes and allocation procedures.

(1) Elementary and Secondary Education Activities. Most Federal assistance under this heading comes under provisions of the Elementary and Secondary Education Act (ESEA) and the National Defense Education Act (NDEA). The major part of ESEA is Title I, under which payments are intended to support programs concentrating on meeting the special needs of educationally deprived children. Grants are dispersed according to numbers of pupils from low-income families and state average spending levels, on terms that give some extra assistance to poor states and that provide incentives for increasing current expenditures per pupil. The most important section of NDEA, (Title III), provides funds to subsidize development of curricula in par-

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[63] Ibid., p. 29.

ticular subject areas; grants are allocated partly in inverse proportion to the state average income per school age child. Although these provisions of ESEA-I and NDEA-III are designed to yield some equalizing effects with respect to income, other grant programs under this heading reflect only limited Congressional intent to distribute funds on an equalizing basis, or none at all.

(2) Maintenance and Operation of Schools in Federally Affected Areas. Federal money distributed under this program (P.L. 874) is intended to assist local education agencies in areas where Federal acquisition of property has reduced local revenue potential and where education must be provided for "Federally-connected" pupils--i.e., primarily in towns hosting defense installations or other government facilities. The allocations are unrelated to local wealth but are designed to compensate for the tax exemption of Federal property. About fourteen states offset part of Federal funds under P.L. 874 in calculating state equalizing aid for the affected districts, a procedure that implicitly capitalizes the Federal payments to represent the value of exempt property.[64]

(3) Vocational Education Assistance. Some of the earliest Federal programs of aid to public schools were designed to encourage development of vocational education activities. These typically provide minimum flat

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[64]ACIR, State Aid to Local Government, p. 39. School districts' state aid allotments are adjusted for P.L. 874 receipts in every New England state except Connecticut and New Hampshire. In 1968 a Federal court enjoined the Virginia practice of deducting half of a district's P.L. 874 funds from the state aid allotment to which it is otherwise entitled. See E. E. Reutter, Jr., "The Legal Element in School Finance," in Interdependence in School Finance..., p. 57.

grants for state programs in specific occupational categories, or allotments distributed according to certain population or employment characteristics, in either case with no regard to the state's fiscal capacity. The Vocational Education Act of 1963 introduced desirable reforms by relaxing categorical restrictions embedded in earlier programs and allocating additional funds on the basis of population by age group and inversely to per capita income.

(4) School Lunch and School Milk Programs. Federal funds are allocated according to schools' participation in the subsidized lunch and milk programs. The states must pay a fixed 75% of the costs unless state income per capita is below the national average; the Federal government may also provide special assistance to schools located in poor economic areas.

The Federal aid that each of the New England states received in 1968 under each of these headings is shown in Table XI. In addition to the Federal aid distributed through these major programs there is a bewildering array of other available grants. One guide designed for school administrators lists 232 specific grants for which individual public schools may qualify,[65] many of them little known and involving only small amounts of funds. Since the Federal contribution to public school finance flows through such a maze of diverse channels, it would be surprising to find that the resultant pattern of distribution shows significantly equalizing tendencies. However, Congress has evinced an increasing concern for equalization, and the pattern of Federal aid distribution across states has become relatively

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[65]Howard S. Rowland and Richard L. Wing, Federal Aid for Schools (NY: Macmillan, 1970).

TABLE XI

FEDERAL AID IN MAJOR PROGRAMS APPLICABLE TO PUBLIC SCHOOLS
NEW ENGLAND STATES, 1968

($thousands)

| | Conn. | Maine | Mass. | N. H. | R. I. | Vermont |
|---|---|---|---|---|---|---|
| Elementary & Secondary Education Activities* # | 16,842 | 5,596 | 22,523 | 3,260 | 4,925 | 2,778 |
| Maintenance & Operation of Schools in Federally Affected Areas | 3,082 | 2,638 | 13,728 | 1,867 | 3,467 | 83 |
| Vocational Education# | 3,342 | 1,013 | 5,474 | 466 | 54 | 746 |
| School Lunch Program# | 1,952 | 1,129 | 5,208 | 691 | 360 | 431 |
| School Milk Program# | 1,761 | 510 | 3,745 | 586 | 414 | 248 |

NOTES:

*Primarily ESEA and NDEA funds.

#Depending on arrangements within the various states, part or all of these funds may be spent in programs run by the state rather than the individual districts.

SOURCE: Statistical Appendix, Annual Report of the Secretary of the Treasury on the State of the Finances, Fiscal Year Ended June 30, 1968, Table 76, pp. 264-281.

more equalizing over the years.[66]

A recent study examined the relationship between state income and Federal aid per school-age child for seven different Federal public school aid programs.[67] Rank correlation coefficients were calculated to test for equalizing effects, which would be indicated by large negative coefficients. The results were mixed, reflecting differences in program design and intended effects. Some programs showed no equalizing effects (e.g. P.L. 874 funds) or even anti-equalizing effects, but in other cases built-in equalization features did appear to be effective; the test yielded rank correlation coefficients of -.72 for vocational education funds and -.96 for payments under NDEA-III.

For funds distributed under ESEA-I, the coefficient was -.64. The equalizing effects indicated must result from a correlation of generally low income levels and number of children from low-income families (the primary basis for allocation). As a result of 1967 amendments, ESEA-I funds should have more significant equalizing effects today.

Even in those few programs where Federal public school aid is distributed among the states in a partially equalizing manner, there is no assurance that equalization at the local level will not be vitiated by the intra-state allocation of funds.[68] Federal program specifications do not deal with the problem of equalization among school districts within states.

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[66]James A. Maxwell, "The Equalizing Effects of Federal Grants," Journal of Finance (May 1954), pp. 209-10; ACIR, The Role of Equalization in Federal Grants (Washington, 1964), pp. 63-5; and I. M. Labovitz, "Federal Assistance to State and Local Governments," pp. 31-33.

[67]Unpublished study cited by S. Kern Alexander, "Trends and Issues in School Finance," Interdependence in School Finance..., p. 154.

[68]For an early discussion of this important problem, see Byron L. Johnson, The Principal of Equalization Applied to the Allocation of Grants-in-Aid, Bureau of Research and Statistics, Federal Security Agency, Social Security Administration (Washington, 1947), Appendix A.

This problem is illustrated by the results of a recent study of the distribution of Title I funds under ESEA. Although the inter-state allocation appeared to be moderately equalizing, there was no significant relationship between per pupil aid and fiscal capacity of the recipient school districts. The author correctly pointed out that the funds allotted to the state could be used more effectively and equitably to further program goals if the intra-state distribution of funds were inversely related to local wealth.[69]

The distribution of Federal aid per pupil among school districts within the New England states is described by the statistics in Table XII. The average and median levels of Federal aid per pupil vary widely from state to state, but the figures show an even greater variation within states, and some districts receive no Federal money at all. Furthermore, except for Maine, there is no significant relationship at all between total Federal aid per pupil and school district wealth as measured by equalized valuation per pupil.

These facts are about what would be expected given the diversity in objectives and design and the large number of Federal programs available to public schools. However, to an important extent the variation in per pupil Federal aid among school districts is an unfortunate, unintended and undesirable result of the complexity and excessive categorization of existing Federal programs. Full participation in the available Federal programs entails a considerable administrative burden. Districts that know the ins

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[69]Myron L. Anderson, "A Financial Analysis of Title I, Public Law 89-10, and the Formation of a Defensible Federal Financial Aid Distribution Plan," Interdependence in School Finance..., pp. 192-5. The study of intra-state allocation used data from Indiana.

TABLE XII

DISTRIBUTION OF PER PUPIL FEDERAL AID FOR PUBLIC SCHOOLS (F/P)
NEW ENGLAND STATES

| | Conn. | Maine | Mass. | N.H. | R.I. | Vermont |
|---|---|---|---|---|---|---|
| Federal Aid per pupil (F/P) at School District Level ($): | | | | | | |
| 10th Percentile Level | 2 | 0 | 8 | 5 | 11 | 8 |
| Median | 11 | 22 | 26 | 20 | 29 | 26 |
| 90th Percentile Level | 33 | 60 | 56 | 60 | 97 | 82 |
| Mean | 16 | 27 | 32 | 28 | 42 | 41 |
| Variance | 301 | 827 | 1,041 | 814 | 1,895 | 2,468 |
| % of School Districts Receiving No Federal Aid | 0 | 14 | 2 | 3 | 0 | .2 |
| Simple Correlation of (F/P) and Equalized Valuation Per Pupil (V/P) | -.07 | -.25* | -.05 | -.07 | -.12 | -.08 |

*Significant at the 1% level; none of the other coefficients is significant even near the 10% level.

and outs of "grantsmanship" can benefit while others, lacking access to this specialized knowledge, suffer by virtue of an "information gap" that means loss of potential Federal aid. These problems have been documented by a recent survey which found, among other things, that Federal aid per pupil tends to be lower in smaller districts, and districts that employ a full-time Federal aid consultant participate in more different programs and receive greater amounts of total Federal aid per pupil. The study concludes that the "evident ability of some suburban districts and some large city districts to obtain significantly more aid than their counterparts...can only be ascribed to aggressiveness, perseverance, creativity and awareness of the administrator or administrators assigned to obtain Federal aid." The survey results suggest that districts employing a full time Federal grant administrator receive, on the average, 32% more Federal aid per pupil.[70]

The Rube Goldberg complex of Federal grants has been the subject of considerable criticism lately. There appears to be growing support for reform, which could be accomplished fairly easily by consolidating existing programs, simplifying application procedures, and providing readily accessible information on what programs are available.[71] Even much needed changes such as these, however, would not go very far toward relieving even inter-state disparities in educational opportunity. In order for the Federal government

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[70]Howard S. Rowland, "Survey of Federal Aid Received by Individual School Districts During 1968-69 School Year," (available from the Macmillan Company, New York, N.Y. 10022).

[71]See ACIR, Fiscal Balance in the American Federal System, Vol. 1 (Washington, 1967), Chs. 2 and 5; and Hon. William V. Roth, Jr., "The Federal Establishment: Some Needed Reforms," Tax Foundation, Inc., Tax Review, Vol. XXIX (August 1968), pp. 33-6. For a general review of Federal programs for public schools, see Garvue, Modern Public School Finance, Ch. 10.

to play a meaningful part in pursuing this objective, many educators believe that the present categorical grants must be supplemented by even larger amounts of Federal funds in the form of general aid distributed on an equalizing basis.[72]

The call for Federal general aid to public education is nothing new. General aid, as opposed to specialized programs, was recommended in 1931 by the National Advisory Committee on Education (Hoover Commission), reflecting a sentiment that began to grow after World War I. Many different forms of general aid bills have been proposed in Congress, including recently some variants of revenue sharing proposals which would earmark shared revenues for public education. The debate about Federal school aid was bogged down in political issues involving fears of Federal control, controversy over segregated school systems, concern about private schools and sensitivity regarding any specific allocation method proposed;[73] concern over these issues intensified whenever general aid proposals were debated.

The passage of the Elementary and Secondary Education Act in 1965 was hailed not only as a new source of substantial financial support for

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[72]See the statement by NEA president George D. Fischer before the General Subcommittee on Education, House Education and Labor Committee, November 12, 1969, pertaining to hearings on H.R. 10833 (NEA Release).

[73]See F. J. Munger and R. F. Fenno, Jr., National Politics and Federal Aid to Education, (Syracuse: Syracuse University Press, 1962), and Federal Role in Education (Washington: Congressional Quarterly Service, 1965) for a review of the political battle for Federal aid to education. The powerful lobby against general Federal school aid has included the U. S. Chamber of Commerce, National Association of Manufacturers and Daughters of the American Revolution. Opposing "any grant by the Federal government to all states...for education purposes," President Eisenhower warned that "...unless we are careful even the great and necessary educational processes in our country will become yet another vehicle by which the believers in paternalism, if not outright socialism, will gain still additional power for the central government."

public schools but also as a major step in the direction of general aid: local school systems were given unprecedented leeway in planning and executing their own Title I programs, subject only to state approval and broad Federal guidelines. A recent examination of Title I programs uncovered many examples of grave misuse of funds and arrived at the pessimistic conclusion that "with few exceptions, the States lack the ability to administer competently programs in a manner faithful to national policy."[74] Advocacy of more general school aid from the Federal government implies confidence that state and local authorities will employ the funds for sound purposes in keeping with national objectives. The unfortunate experience with Title I funds in some areas hardly inspires confidence.

There is much that the Federal government could do to relieve existing disparities in public school spending and tax burdens, not only among, but also within states. Action is needed to direct Federal aid to those areas where present needs are greatest, either by revision of existing programs or introduction of new ones. If the Federal government is to play a meaningful role in equalizing educational opportunity it must make a much larger financial commitment. In a broader context, there is growing recognition that "...the Federal government cannot carry out its responsibilities for the general welfare, and its responsibilities under the Employment Act of 1946 for growth, for maximum employment, production and purchasing power, without investing more in elementary and secondary education."[75]

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[74] Title I of ESEA: Is It Helping Poor Children? A report by the Washington Research Project of the Southern Center for Studies in Public Policy and the NAACP Legal Defense and Educational Fund, Inc., (1969), p. 80.

[75] Walter W. Heller, "The Economic & Fiscal Outlook," in Trends in Financing Public Education, p. 20.

## VI. PROPOSALS FOR REFORMING PUBLIC SCHOOL FINANCE SYSTEMS

Local governments, which suffer the consequences (or reap gratuitous benefits) of the present inequitable methods of public school finance, are essentially powerless to change the system. Unless the higher levels of government take action to reform the system disparities in the local financial burden of public education will persist and, most importantly, children in unfavored locations and socio-economic positions will continue to be the victims of unequal educational opportunity.

The preceding sections make clear that there are many possibilities for reform open to both the Federal and state governments. A frontal attack on the current problem could involve a package of policy changes involving total amounts of intergovernmental aid, the structure of state and Federal public school aid, as well as broader changes affecting government organization and the distribution of functional and fiscal responsibilities among the Federal, state and local levels. Much of the current interest in reforming public school finance systems--and intergovernmental fiscal relations in general--has been inspired by increasing concern about poverty and growing awareness of the particular problems of the cities.[76]

Fiscal disparities within metropolitan areas have been well documented.[77]

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[76]For suggested policy changes see Norman Beckman, "How Metropolitan Are Federal and State Policies?" Revenue Sharing and its Alternatives, Vol. II, pp. 1007-1021, and ACIR, Fiscal Balance in the American Federal System, Vols. 1 and 2.

[77]See particularly ACIR, Fiscal Balance..., Vol. 2, including case studies of twelve metropolitan areas (Appendix D); Alan K. Campbell and Seymour Sacks, Metropolitan America: Fiscal Patterns and Governmental Systems (NY: The Free Press, 1967); and for emphasis on educational dimensions, Seymour Sacks and David Ranney, The Allocation of Fiscal Resources to Large City School Districts (Syracuse: Syracuse University Press, in process).

The resources of central city governments are being increasingly strained by burgeoning demands for public services; in many cities the tax base has actually declined as industry has moved to outlying areas and valuable property has been removed to tax-exempt status. The contrast between the economic fortunes of the core cities and their suburbs is quite striking, and the general picture of fiscal disparities within metropolitan areas under the present system is exceedingly gloomy: cities incur much higher non-educational expenditures than their suburbs; their property tax rates are generally higher, and school spending per pupil is lower. Yet the suburbs get more state school aid per pupil in most states. These results are all the more perverse because educational needs per pupil are greater in large city school systems as a result of inner city concentrations of culturally deprived children from low-income families. Providing equal educational opportunity to disadvantaged children requires extra spending not only for schools but also for other social services, thus aggravating the differential burden of an overall program that would equalize educational opportunities. State aid formulas discriminate against the cities because they neglect entirely or fail to compensate adequately for the added burdens of non-educational spending and the greater educational needs of the urban student population; some Federal programs operate in the right direction, but present funding is not nearly adequate against the magnitude of the problem.

A major political commitment will be required to reform the present public school finance system. "The present allocation of resources /for public schools/ may reflect the distribution of political power in American society; but it does not match the distribution of need."[78]

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[78]Campbell, "Inequities of School Finance," p. 48.

Disparities in tax rates and school spending appear most dramatically in city-suburb comparisons, but they are just as pernicious in the general context of the present system. In fact, fiscal disparities among suburban towns in many metropolitan areas are quite severe and appear to be increasing over time.[79] The school finance problem has reached crisis proportions even in locations that are isolated from the exacerbating social and economic difficulties of the cities.[80] Any of the various proposals discussed below would contribute in some way to reduction of present inequities.

More Equalizing State Aid. Defects of present state school aid systems have been described above; rather than reiterate the shortcomings of actual systems, the most promising approaches to increased equalization will be summarized briefly here.[81]

Full equalization would, of course, be attainable under an unconstrained percentage equalization plan. Such a system could also preserve incentives and a maximum degree of local control. However, experience to date, together with analysis of hypothetical systems, suggests that implementation of percentage equalization in a truly effective "pure" form is unlikely.

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[79]See G. Alan Hickrod and Cesar M. Sabulao, Increasing Social and Economic Inequalities Among Suburban Schools: A Study in Educational Administration and Finance (Danville, Ill.: Interstate Publishers, 1969), a study for the U. S. Office of Education.

[80]As a striking example, CBS News documented the case of Fremont, Ohio, a town where local property taxes are among the lowest in the Nation and the schools were closed because voters failed to approve a levy to provide operating funds ("The Day They Had to Close the Schools," CBS Reports, January 27, 1970).

[81]For detailed recommendations for reform within present state school aid systems, see ACIR, Metropolitan Social and Economic Disparities: Implications for Intergovernmental Relations in Central Cities and Suburbs (1965), pp. 125-126; and ACIR, State Aid to Local Government, Ch. 3 and p. 20.

Percentage equalization is one specific method of eliminating the present tie between local wealth and school spending, but more generalized solutions are possible. One particularly appealing proposal combines the virtues of simplicity, flexibility and a complete elimination of wealth-connected disparities in local tax effort and educational spending while at the same time completely preserving local decision-making and control. This proposal is labeled by its proponents "district power equalizing"; under the proposed system, a district's educational spending is made a function of local effort alone:[82]

> ...Power equalizing is a commitment by the state to the principle that the relationship between the effort and the offering of every district shall be the same irrespective of wealth, and that the district shall determine the effort (within appropriate limits if the state so desires).... Like the present system, power equalizing contemplates that districts will shape and value education differently and, therefore, that the offerings throughout the state will differ. Local incentive is stressed to the exclusion of the incompatible value of statewide equality of offering.

The power equalizing plan could be implemented in a variety of ways, as its authors suggest. For example, it would be attained if the state simply specified a schedule relating local tax effort and school spending levels. To the extent that any district's revenues at a given tax rate do not match the corresponding scheduled expenditure amounts, the state would make up the difference in cases of shortfall or require payments to the state in the event of excess local collections. Therefore, no deviations from the tax rate-expenditure schedule would be possible. All communities would be free to decide how much to spend on their schools, and those with low valuation per pupil would suffer no disadvantage. The state could specify a tax rate-expenditure schedule of any form at all, e.g. it could provide strong in-

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[82]Coons, Clune and Sugarman, Private Wealth and Public Education, Ch. 6.

centives for spending up to some level and reward additional spending beyond that level with relatively less assistance from state funds.

Current trends suggest that, short of any comprehensive reform, it is likely that states will choose to make their present systems more "sophisticated," as many have begun to do, by adding increasingly complex weighting procedures to reflect differences among districts in fiscal capacity, non-educational spending burdens, and educational needs. A detailed plan for reforming state school aid and eliminating community disparities in educational opportunity has been proposed by the ACIR.[83] The four-part plan consists of (1) a "Basic Program" to provide a minimum per pupil spending level, financed by county-wide property taxes on an equalized base, supplemented where necessary by state funds and redistribution of excess local collections; (2) an "Educational Improvement Program" for expenditures up to twice the minimum level, with state aid supplementing local revenues on a strongly equalizing basis; (3) a "Special Educational Needs Program" guaranteeing state aid to pay the costs of legitimate special spending requirements and (4) state assistance to districts with below average equalized valuation per pupil for the purpose of participating in certain Federal programs requiring local funds.

Such a program has considerable appeal. To be effective, it would require a generous state aid commitment; without sizable increases in state funds, even the most excellent modification of existing state aid programs would fail to yield significant equalization.

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[83]ACIR, "Fiscal Measures for Equalizing Educational Opportunities for Economically and Socially Deprived Children," in 1968 State Legislative Program (1967).

Consolidation of Small Districts. Disparities in school district wealth (equalized valuation per pupil) tend to be greater the smaller the size of the districts. Consolidation of small districts not only promotes more efficient operations but also reduces variation in local tax effort and school spending levels since needs and resources are ordinarily more homogeneous across jurisdictions encompassing larger geographic areas. Political resistance to district consolidation stems partly from obvious selfish motives: if two districts merge the operation and financing of their schools, the wealthier district residents might expect some increase in their own tax rates as some of their resources go to support education of their less prosperous neighbors' children. This is a particularly ticklish problem because wealthy suburbs have in many cases gone to great lengths, through restrictive zoning and other practices, to create low-tax enclaves. States may offer financial incentives to promote consolidation, but at the same time school aid systems as presently constituted tend to perpetuate small districts. If a state is to make much progress along this front, it may be necessary to compel consolidation. Disparities in public school finance are aggravated by the existence of numerous small school systems in the New England states. Here the problem is complicated because of the relatively large number of "dependent" school systems operated as adjuncts of town governments.[84]

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[84]See U. S. Bureau of the Census, 1967 Census of Governments, Vol. 1, Governmental Organization (1968), pp. 3-4, 6 and Table 13. In Hawaii, all schools are state-dependent: the state government assumes full functional and financial responsibility; this is consolidation carried to the ultimate level. In Maryland, school systems are all adjuncts of county government.

The dependent situation of many New England schools creates problems in making financial comparisons because municipal governments provide some services that would otherwise be charged explicitly to the schools. See Massachusetts Advisory Council on Education, Massachusetts and Its Support of the Public Schools, MACE Report 1-67 (1968), pp. 20-24.

Broadening the Geographic Base of Property Tax Support. Any geographic expansion of taxing districts would ameliorate the present inequalities in school tax rates and spending levels that stem from disparities in local wealth. Movement to county-wide or regional taxing districts would promote more equitable school finance, and local control could easily be preserved within such a system. An areawide plan could be implemented by setting a uniform tax rate to finance a target per pupil spending level and permitting localities to impose supplementary taxes to underwrite a program above the areawide standard. This approach to equalization has particular appeal as a means of reducing disparities within metropolitan areas.[85]

Broadening the property tax base to encompass the entire state, as in Models I and II analyzed above, would of course produce even greater equalizing effects. Historically, the states have yielded the property tax base to local governments, but it is within their power to reclaim it for such a program. The plan would resemble a foundation-type program with a target spending level guaranteed and financed through redistribution according to need of the revenues generated by a uniform local tax rate plus supplementary state funds. The degree of actual equalization in the final result would depend on the level of the equalized spending target and the nature of provisions for state aid to districts that spend more than the program amount. If the equalized program level is too low, or if the redistribution procedure fails

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[85]For description of a comprehensive plan to implement this approach, including draft legislation, see ACIR, "Metropolitan Educational Equalization Authority," in ACIR State Legislative Program--New Proposals for 1969 (1968). The ACIR has also recommended steps that the Federal government could take to encourage and assist metropolitan educational arrangements; see Fiscal Balance..., Vol. 2, pp. 11-12.

to account adequately for differential needs, the equalization objective will be compromised.

State-wide property tax financing has been proposed in several states, including Vermont and Maine.[86] The specific proposals differ considerably in detail, but all would offer significant gains over the present systems. A state-wide property tax plan has been proposed for Michigan by Governor Milliken as part of a comprehensive reform program for the public school system. Under this proposal, the state would determine reasonable operating costs for the public schools and would pay 100% of the bill for each school district, supplementing the property tax yield with funds from general revenues. Local districts would be permitted to levy property taxes for supplementary spending, and the state would provide generally equalizing aid for this purpose, but additional spending financed by this means would be strictly limited.[87]

An interesting compromise suggested for Ohio (but not adopted) would represent a major advance but illustrates the tenacity of the advantage accruing to wealthy districts. Spending would be equalized up to a fairly high level, and equalizing grants would be provided to support supplementary spending by districts up to an "average" level of wealth. Richer than "average" districts, while not qualifying for supplementary grants, would

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[86]See "Beyond State Aid," speech delivered by former Vermont Governor Philip H. Hoff, January 30, 1968, in support of H.535; and Charles C. Sutton, "Plan Would Aid Poorer Schools," Portland (Me.) Press Herald, December 11, 1968. An early proponent of state-wide property tax financing was Lynn A. Stiles of the Federal Reserve Bank of Chicago.

[87]See Citizens Research Council of Michigan, "Analysis of the Governor's Educational Reform Proposals," Memorandum No. 213 (November 1969). The Michigan proposal is based largely on the work of J. Alan Thomas; see his report School Finance and Educational Opportunity in Michigan (Lansing: Michigan Department of Education, 1968) and "Modernizing State School Finance Programs: A State System to Equalize the Distribution of Education," in Interdependence in School Finance..., pp. 34-42.

retain an advantaged position because they could still raise any amount of additional dollars per pupil at a lower tax rate than the district of "average" wealth.[88] This type of compromise may be necessary to obtain political approval of a reform proposal. Even with constraints more damaging than this one, a state-wide property tax scheme would yield substantial equalization benefits. For example, the modest plan proposed for Vermont, if enacted, would have reduced the ratio of maximum to minimum effective school tax rates from a factor of approximately 34 to a factor of 3.

Once a state-wide property tax plan is adopted, the prospects for general relief of local property tax burdens would be enhanced; this could be achieved over time by gradual increments in the state share of program costs, with uniform reductions in local tax rates. The plan would capture revenues from property values now locked up in low-tax enclaves and would have positive side-effects, for example, in rationalizing land-use patterns: a move to state-wide (or, generally, areawide) property taxation "could shrink to the vanishing point the 'leverage effect' that increments to the tax base can exert upon property tax levels, and by this means virtually eliminate incentives to influence the landscape with an eye to taxes and school enrollments."[89]

State Take-over of Public School Costs. There is widespread support for state assumption of a much larger share in total public school expend-

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[88]This Ohio proposal is described in Wise, Rich Schools, Poor Schools, pp. 204-6, citing Stephen K. Bailey, et al., Achieving Equality of Educational Opportunity, (report for the Ohio Foundations, May 1966).

[89]Lynn A. Stiles, "Relative Federal, State, and Local Responsibility in Education," in Federal-State-Local Fiscal Relationships, p. 226.

itures, particularly as a means of easing the urban financial crisis.[90] In Hawaii, where the usual tradition of local school support never existed, the state exercises full functional and financial responsibility for schools. A more modest plan, which would call for complete state financing of public education while retaining local policy-making and control, was advocated by James B. Conant in 1968 and has won widespread support among educators.[91] Conant argued that "public education in the states would be greatly improved if educational decisions at the local level could be completely divorced from considerations of local taxes." His proposal was "radical" in that he recommended complete elimination of local tax support for schools,[92] and he recommended state financing through broad-based taxes rather than the property tax. He argued that severing the tie between local control and local finance was not only desirable but even necessary to insure provision of public education at a high standard.[93]

The goal of complete state assumption of financial responsibility for schools has already been approached in North Carolina, Delaware, New Mexico and Louisiana (in addition to the unique case of Hawaii). Substitution of broad-based state taxes for local school taxes has great appeal in terms of overall equity in state-local tax structures. In supporting this proposal,

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[90]See the statements by a panel of urban experts in "Financing Our Urban Needs," Nation's Cities (March 1969), pp. 30-32.

[91]Conant presented his proposal at the 1968 meetings of the Education Commission of the States. Attitudes revealed by a poll of school administrators are reported in "Conant State Finance Plan Gets Qualified Approval," Nation's Schools, Vol. 83 (January 1969), pp. 70-71.

[92]James E. Allen, Jr., "The State, Educational Priorities, and Local Financing," Integrated Education, Vol. VI (September-October 1968), p. 56.

[93]"For many years, I advocated local financing as a necessary assurance of local control. I have now reversed my position. I have come to believe that the financing of the education of our American children is too important to be left to the mercy of local electorates"--"Conant Comments on this Month's Poll," Nation's Schools, Vol. 83 (January 1969), p. 71.

the ACIR notes that

> Budgetary considerations may dictate a somewhat gradual rather than immediate substitution of State tax dollars for local property tax receipts. However, there is evidence to suggest that perhaps as many as 20 or more states could assume responsibility for substantially all public school financing if they made as intensive use of personal income and sales taxes as the "heavy-user States" now make on the average. When viewed alongside the potential decrease in the local property tax, State assumption of financial responsibility loses its idealistic cast and takes on the appearance of a realistic and equitable readjustment of the total tax burden.[94]

The local property tax would remain as the dominant revenue source for local non-education services, and for whatever school "enrichment" such a plan might permit to local districts (the ACIR proposal would strictly limit local supplementation to a maximum 10% of state outlays, a compromise in contrast to Conant's complete prohibition). Relative relief would therefore be greatest in jurisdictions with low proportions of non-educational to total local expenditures.[95] A plan to right the balance somewhat has been proposed and has received prestigious support; this plan calls for combining state assumption of educational costs with Federal take-over of welfare costs. This scheme would release substantial state funds that could be used to support education and would focus additional local tax relief in the core cities, where relief is most urgently needed.[96]

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[94]ACIR, "State Financing of Public Elementary and Secondary Schools," ACIR State Legislative Program--New Proposals for 1970 (1969).

[95]For an example of the quantitative relief that would result town by town, see calculations based on a proposal for Massachusetts, in William Cooper and William Greenwald, "State School Takeover Would Shift Taxes Spectacularly," Boston Sunday Herald Traveler, September 1, 1968, Sec. 1. p. 33.

[96]ACIR, State Aid to Local Government; and Mabel Walker, "Financial Responsibility for Education and Welfare," Tax Institute of America, Tax Policy, Vol. XXXVI (April 1969). The ACIR report contains calculations regarding the fiscal feasibility of such a system (Ch. 2).

Federal Block Grants for Public Education. Over the past few years, Congress has shown increasing interest in Federal "block" grants to the states, in the form of either completely general purpose grants or untied aid for broad functional categories. Several "Tax Sharing for Education Acts" have been proposed, reflecting concern specifically for increasing the Federal contribution to public education.[97] In early 1967, the "Quie amendment," which would have converted the entire elementary and secondary education program to a block grant basis, was introduced but failed to pass.

Hearings were held recently on a broad new proposal for general educational aid, "The General Education Assistance Act of 1969," a bill sponsored by the NEA.[98] Advocates of this proposal identify several desirable features: it would be simple to administer; it would not involve an increase in Federal control over local school operations; and it would focus Federal money on aid to local school budgets. Funds would be allocated in two parts. "Basic grants" would be distributed to states on the basis of school-age population, and this money would be supplemented by "equalization grants" allocated according to the proportion of "low-income" students in each state. Approximately one-third of the total funds would be devoted to this latter explicitly equalizing provision; this feature of the bill yields very sub-

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[97] See the summary of proposals in Maureen McBreen, "Federal Tax Sharing: Historical Development and Arguments for and Against Recent Proposals," Revenue Sharing and Its Alternatives, Vol. II, pp. 730-735.

[98] H.R. 10833. For arguments in support of the bill on pertinent statistics, see George D. Fischer, statement cited in footnote 72.

stantial equalizing effects across states.[99] Providing amounts ranging from $114 per pupil in Nevada to $230 per pupil in Mississippi, the measure would require funding of $7.8 billion. In its support of the general aid bill, the NEA argues that categorical programs alone cannot adequately meet the pressing needs of public schools, and a massive additional outlay of Federal funds is required in order to achieve significant educational progress. In the face of recent actual and proposed reductions in Federal support of elementary and secondary schools,[100] the prospects for new funding at the proposed magnitude do not appear hopeful.

Congress has recognized the dominant position of educational expenditures in the existing and projected total budgets of state and local governments. To an important extent, therefore, revenue sharing plans and general aid to public schools are potential rivals for the Federal purse. "In fact, it was the absence of any Federal program of general aid for education which provided considerable impetus for the revenue sharing idea in the early 1960's."[101] The current Administration revenue sharing proposal would provide some aid to public education, indirectly by increasing state general revenues and directly by guaranteeing at least some funds to all local

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[99]The impressive equalizing effect of setting aside a portion of unconditional grant funds for distribution to low-income states was demonstrated by James L. Plummer, "Federal-State Revenue Sharing," Southern Economic Journal, Vol. XXXIII (July 1966), pp. 120-126. Using 1964 data, Plummer found a correlation of -.274 between state per capita personal income and allotment under a revenue sharing plan based on population and tax effort. If 10% of the funds are set aside for supplementary aid to the poorest 17 states the correlation becomes -.708.

[100]See "NEA Charges Nixon Administration Reneged on Campaign Pledge to Nation's Teachers" (NEA Release, November 12, 1969).

[101]William H. Robinson, "Revenue Sharing and Creative Federalism--Some Perspectives" Federal-State-Local Fiscal Relationships, p. 152.

government units. In contrast to earlier bills, the Administration proposal would have minimal equalizing effects in its allocation among states. Since the amounts involved (estimated total distribution of $5 billion by 1976) would be only a drop in the state-local revenue bucket,[102] this specific proposal would not appear to be a satisfactory substitute for increased aid to education, and proponents will certainly continue to press for a bill such as the General Education Assistance Act. Several points will undoubtedly arouse particular Congressional concern. It is reasonable to anticipate efforts to build in revenue maintenance provisions designed to prevent substitution of tax relief for educational improvement, and a debate is likely on the degree to which funds will be granted unconditionally. Hopefully, explicit attention will be given to standards for intra-state allocation of funds.

How Can Reform Be Achieved? The constitutional and financial responsibility for provision of public education lies with the state governments. The Federal role in public school finance is essentially "ancillary and remedial in character, even if crucial and extensive."[103] Action by the Federal government to promote equalization between states, or to stimulate compensatory programs in areas of particular need, cannot be fully effective until state systems are reformed in such a way that the present dependence of local school spending and tax effort on local wealth is broken. Short of a perfectly equalizing state system, movement in the direction of eliminating

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[102] See Presidential statement and articles in the New York Times, August 14, 1969, pp. 1, 24-25. The program funds would be partly wasted because many local jurisdictions would receive less than $100 in allotments. The Administration proposal would require intra-state allocation of funds in proportion to each unit's share in total local revenue raised in the state--with anti-equalizing effects.

[103] Coons, Clune and Sugarman, Private Wealth and Public Education, Introduction. The authors' full views on this point are presented in Ch. 7.

existing disparities is of course possible by implementing reforms suggested above at the state or Federal level. However, these would only be piecemeal changes unless the state adopts a fully equalizing public school finance plan such as "pure" percentage equalization. On this score the record of the states does not encourage hope, and it appears likely that legal action will be required:

> ...The pressures for full equality of educational opportunity have always been strong; the governments of the states have long been urged to fulfill their commitment to public education. But the pressure has always been diverted by deft and frustrating political compromise that is probably the most that can be expected in the absence of judicial intervention.[104]

A legal attack on existing state public school finance systems could be based on the Fourteenth Amendment "equal protection" clause of the Constitution. The argument, in essence, would consist in showing that state systems yielding the result that within the state a child's education depends on the wealth of his community are unconstitutional. Beginning in 1968, unprecedented legal actions have been taken against state public school finance systems on "equal protection" grounds. None of the suits has been successful to date, but it has been argued quite cogently that a case against a state system could be won if a proper approach is taken and an intelligible judicial remedy suggested.[105]

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[104] Ibid., Ch. 5

[105] For discussion of the "equal protection" argument applied to public school provision, see references cited in Footnote 5 and discussion in Daly, The Quality of Inequality.... A comprehensive legal rationale and proposed judicial remedy are developed by Coons, Clune and Sugarman in "Educational Opportunity..." and Private Wealth and Public Education, Part III. Actual court challenges are described in Ibid., and ACIR, State Aid to Local Government, pp. 43-44.

**ADDENDA**

(1) All the above discussion has been limited to consideration of the public school finance problem in its various guises and the nature of reforms in the system that could positively affect equality of educational opportunity. Of course, achievement of this much broader objective is impeded by a multiplicity of non-financial problems as well, such as inhibiting organizational structures and other inherent rigidities. Many critics of present public education have suggested that new alternatives are needed, that educational opportunity could be vastly improved in a system permitting a variety of schools to flourish in competition with public education. The concept of a competitive education market was originally propounded by Milton Friedman.[106] The financing of such systems could be arranged by some form of direct government grants to parents (or to the school of their choice). Such a radical restructuring of elementary and secondary education goes beyond the context of this study, and the idea will not be pursued further here, except to note that it is possible to devise financial arrangements that

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[106] "The Role of Government in Education," in Robert A. Solo (ed.), Economics and the Public Interest (New Brunswick: Rutgers University Press, 1955), pp. 123-144. See also Kenneth B. Clark, "Alternative Public School Systems," Harvard Educational Review, Vol. 38 (Winter 1968), pp. 100-113, and Christopher Jencks, "Is The Public School Obsolete?" Public Interest, No. 2 (Winter, 1966), pp. 18-27.

would provide family payments on a fully equalizing basis.[107]

(2) It is interesting to speculate on the possibility of cumulative effects resulting from any significant reform of present school finance systems. The literature on the incidence of the property tax suggests a tendency for property taxes to be capitalized and therefore reflected in property values. Also, many observers have suggested that residential property values tend to be higher, ceteris paribus, in communities where schools are known to be of relatively high quality. In a recent cross-sectional regression study, Wallace E. Oates reported results that support both of these hypothesized relationships:

> ...Local property values bear a significant negative relationship to the effective tax rate and a significant positive correlation with expenditure per pupil in the public schools. The size of the coefficients suggests that, for an increase in property taxes unaccompanied by an increase in the output of local public services, the bulk of the rise in taxes will be capitalized in the form of reduced property values. On the

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[107]Friedman's system would provide uniform stipends on behalf of every pupil and would therefore be non-equalizing, as various critics have pointed out. For description of possible financing arrangements on an equalizing basis (with respect to family income) see M. V. Pauly "Mixed Public and Private Financing of Education: Efficiency and Feasibility," American Economic Review, Vol. LVII (March 1967), pp. 120-130; Henry M. Levin, "The Failure of the Public Schools and the Free Market Remedy," The Urban Review, Vol. 2 (June 1968), pp. 32-37; Coons, Clune and Sugarman, Private Wealth and Public Education, Ch. 7. Proponents of these systems have argued that mixed public and private financing would elicit an increase in total resources devoted to education (see also Wm. Craig Stubblebine, "Institutional Elements in the Financing of Education," Southern Economic Journal, Vol. XXXII, Pt. 2 (July 1965), pp. 15-34). Federal legislation to provide grants to public or private schools on a per pupil basis has been proposed (H.R. 776: "School Children's Assistance Act of 1969"). Any of the competitive systems would encounter the still unresolved constitutional question surrounding government aid to private schools; see NEA, The Pupil's Day in Court: Review of 1968 (1969), pp. 53-56, and Jacob W. Landynski, "Governmental Aid to Non-Public Schools: The Constitutional Conflict Sharpens," Social Research, Vol. 36 (Autumn 1969), pp. 333-356.

> other hand, if a community increases its rates and employs the receipts to improve its school system, the coefficients indicate that the increased benefits from the expenditure side of the budget will roughly offset (or perhaps even more than offset) the depressive effect of the higher tax rates on local property values.[108]

If equalizing aid to public schools were increased, it seems plausible that there would be some resultant tendency for property values to rise in relatively poor communities where school spending levels would rise and local tax rates would quite likely fall. Similarly, if a state were to adopt a uniform state-wide school tax rate, property values could conceivably decline somewhat (at least relatively) in the "rich" towns where property tax rates would rise without any necessary offsetting increases in spending levels. The magnitude of such effects in the context of reforming public school finance systems is, of course, conjectural and would depend on the nature of the reform, but any convergence of relative property values resulting from changes in the distribution of school tax burdens and spending levels would tend to ameliorate total variation in property tax rates among communities within a state.

(3) It must be emphasized that this report stresses problems in existing arrangements for financial support of basic current public school expenditures and proposals for reform designed to bring about a more equitable distribution of school tax burdens and current spending per pupil within each state. Refinements, such as accounting for differences in total ability to pay (e.g. adjusting for local governments' non-educational public service costs) and differential need for school expenditures (e.g. the higher

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[108] Wallace E. Oates, "The Effects of Property Taxes and Local Public Spending on Property Values: An Empirical Study of Tax Capitalization and the Tiebout Hypothesis," Journal of Political Economy, Vol. 77 (November/December 1969), p. 967. Oates' results are based on data for towns in northern New Jersey.

costs of compensatory education programs required to effectively equalize educational opportunity) have been mentioned but not analyzed in depth. While these matters are of recognized importance, the need for fundamental reform of state systems for financing basic program costs is primary, and such reforms would represent an important step forward even in the absence of fine adjustments. Since public school spending looms so large in total state and local budgets, improvements in this sphere would contribute significantly to overall equity in state-local public finance. Moreover, on non-economic grounds there is strong justification for singling out public education as an area of special policy concern.[109]

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[109]See for example Coons, Clune and Sugarman, "Educational Opportunity...," Pt. VIII and Private Wealth and Public Education, Preface and Pt. III, including their discussion of "The Equal Sewer Problem."

## APPENDIX I

## DESCRIPTION OF DATA AND SOURCES*

The data for this study have been provided by the State Education Departments of the several states.** In all instances, the departments obtain equalized valuation and assessment data from the appropriate state tax authorities; they receive school finance and membership data in the annual reports submitted by the school districts. Although the format and the detail of these reports vary from state to state, generally the detail provided is in sufficiently flexible format to permit the construction of consistent data series.

In order to impose conceptual unity on the data and to insure completeness, we have utilized an accounting framework recommended by the U. S. Department of Health, Education and Welfare.*** Tables showing the main expenditure and revenue accounts in this framework are reproduced on the following pages. We have attempted to view all state data through this framework and, if a series appeared to be incomplete or missing, we have made appropriate inquiries to the state education authorities for clarification.

The collection and compilation of accurate and detailed data by school districts is a relatively recent phenomenon. Furthermore, concepts

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*This Appendix was prepared by David H. Swinton and Kathryn L. Holliday.

**The only exception is Connecticut, for which most of the data is taken from a Connecticut Education Association publication. Even in this case, however, the data are derived from state education department sources. The figures have been checked against state sources to ensure consistency with our definitions.

***Office of Education, Financial Accounting for Local and State School Systems, State Educational Records and Reports Series: Handbook II, OE-22017 (U.S.G.P.O., Washington, 1966). Details of the classification system and its rationale are provided in this basic source.

## CLASSIFICATION OF RECEIPT ACCOUNTS

### REVENUE RECEIPTS
### 10-40 Series

10. REVENUE FROM LOCAL SOURCES
    - 11. TAXATION AND APPROPRIATIONS RECEIVED
        - 11-a. Taxes Received from School District Levies
        - 11-b. Taxes Received from Local Governmental Units Other than School Districts
        - 11-c. Appropriations Received from Local Governmental Units Other than School Districts
    - 12. TUITION FROM PATRONS
        - 12-a. Regular Day Schools
        - 12-b. Adult Education
        - 12-c. Other Tuition from Patrons
    - 13. TRANSPORTATION FEES FROM PATRONS
    - 14. OTHER REVENUE FROM LOCAL SOURCES
        - 14-a. Earnings from Permanent Funds and Endowments
        - 14-b. Earnings from Temporary Deposits and Investments
        - 14-c. Net Receipts from Revolving Funds or Clearing Accounts
        - 14-d. Rent from School Facilities
        - 14-e. Rent from Property Other than School Facilities
        - 14-f. Gifts and Bequests
        - 14-g. Miscellaneous Revenue from Local Sources
20. REVENUE FROM INTERMEDIATE SOURCES
30. REVENUE FROM STATE SOURCES
    - 30-a. State
    - 30-b. Federal Money Received through the State
40. REVENUE FROM FEDERAL SOURCES

### NONREVENUE RECEIPTS
### 50-70 Series

50. SALE OF BONDS
60. LOANS
    - 60-a. Short-term
    - 60-b. Long-term
70. SALE OF SCHOOL PROPERTY AND INSURANCE ADJUSTMENTS
    - 70-a. Sale of Real Property
    - 70-b. Sale of Equipment
    - 70-c. Net Insurance Recovery

### INCOMING TRANSFER ACCOUNTS
### 80-90 Series

80. AMOUNTS RECEIVED FROM OTHER SCHOOL DISTRICTS IN THE STATE
    - 80-a. Tuition
    - 80-b. Transportation
    - 80-c. Miscellaneous
90. AMOUNTS RECEIVED FROM SCHOOL DISTRICTS IN ANOTHER STATE
    - 90-a. Tuition
    - 90-b. Transportation
    - 90-c. Miscellaneous

## CLASSIFICATION OF EXPENDITURE ACCOUNTS

ADMINISTRATION 100 SERIES

110. Salaries
120. Contracted Services
130. Other Expenses

INSTRUCTION 200 SERIES

210. Salaries
  211. Principals
  212. Consultants or Supervisors
  213. Teachers
  214. Other Instructional Staff
  215. Sec. & Cler. Asst's
  216. Other Salaries for Instr.
220. Textbooks
230. School Libraries & Audiovisual
240. Teaching Supplies
250. Other Expenses

ATTENDANCE AND HEALTH SERVICES 300-400 SERIES

300. Attendance Services
  310. Salaries
  320. Other Expenses
400. Health Services
  410. Salaries
  420. Other Expenses

PUPIL TRANSPORTATION SERVICES 500 SERIES

510. Salaries
520. Contracted Ser. & Pub. Carriers
530. Replacement of Vehicles
540. Transportation Insurance
550. Expenditures in Lieu of Trans.
560. Other Expenses

OPERATION OF PLANT 600 SERIES

610. Salaries
620. Contracted Services
630. Heat for Buildings
640. Utilities Except Heat
650. Supplies
660. Other Expenses

MAINTENANCE OF PLANT 700 SERIES

710. Salaries
720. Contracted Services
730. Replacements of Equipment
740. Other Expenses

FIXED CHARGES 800 SERIES

810. Employee Retirement
820. Insurance and Judgments
830. Rental of Land and Buildings
840. Interest on Current Loans
850. Other Fixed Charges

FOOD SERVICES AND STUDENT-BODY ACTIVITIES 900-1000 SERIES

900. Food Services
  910. Salaries
  920. Other Expenses
  930. Separate Fund or Account
1000. Student-Body Activities
  1010. Salaries
  1020. Other Expenses
  1030. Separate Fund or Account

COMMUNITY SERVICES 1100 SERIES

1110. Recreation
1120. Civic Activities
1130. Public Libraries
1140. Custodial and Detention Care of Children
1150. Welfare Activities
1160. Nonpublic School Pupils
  1161. Instructional Services
  1162. Attend. & Health Services
  1163. Transportation Services

CAPITAL OUTLAY 1200 SERIES

1210. Sites
1220. Buildings
1230. Equipment

DEBT SERVICE FROM CURRENT FUNDS 1300 SERIES

1310. Principal of Debt
1320. Interest on Debt
1330. Paid into Sinking Funds
1340. Schoolhousing Authority
1350. Other Debt Service

OUTGOING TRANSFER ACCOUNTS 1400 SERIES

1410. Districts in the State
1420. Districts in Another State
1430. Tuition to Other Than Public Schools

and definitions used at the state level may change from year to year and new programs may be introduced at the state and Federal levels. Because of these considerations and the immensity of the data collection task, we have concentrated on data for one year instead of trying to construct a consistent set of time series. We thus endeavor to compile consistent cross-section data for each state in order to illustrate the inter-district disparities that are the main focus of this study.

Six basic statistics are derived from the data for use in this study. All other measures used are derived from these six basic statistics. Their definitions follow:

Current Operating Expenditures (E): All regular day school expenditures made by the taxing unit on account of residents of the taxing unit less expenditures on capital outlay and debt service account.

State Share (S): All state revenue contributed for regular day school expenditures for residents of the taxing unit being educated at public expense less state contributions to debt service and capital outlay account.

Federal Share (F): All Federal revenues contributed for regular day school expenditures for residents of the taxing unit being educated at public expense.

Local Share (L): All revenues raised by the taxing unit to finance regular day school expenditures for residents of the taxing unit excluding revenues expended on capital outlay and debt service account.

Resident Membership (M): The total number of resident pupils enrolled in regular day schools for whom the taxing unit is financially respon-

sible.*

Equalized Valuation (V): Generally, the full market value of all taxable property within a district as determined by the state tax authorities.

The first five statistics are all defined on a regular day school basis. This excludes expenditures on adult education, special manpower programs, junior colleges, and other "irregular" programs. Included are expenditures on pupils enrolled for school during regular school hours and in "regular" school programs. This includes normal elementary and secondary programs, vocational school programs (if operated locally), "special" education programs (programs for deaf, mentally retarded, etc.) and in some cases summer school programs. This restriction on the data is made because we are interested in deriving statistics for the normal education programs for resident school children. Furthermore, the incidence of "irregular" or extra programs across districts is uneven and data are not always available for these programs at the school district level. We have also defined these statistics in terms of pupils whose education is "paid for by the taxing unit." The effect of this restriction is to eliminate data for private school pupils and pupils educated at the expense of some other taxing unit.

The school financial statistics utilized in the study exclude capital and debt service charges so that these "current operating" figures are

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*We have used enrollment figures in this study whenever possible (instead of the customary attendance or average membership figures). School budgets are considered more closely related to enrollments than attendance. Furthermore, data is not generally available to derive resident basis average daily membership or attendance figures. We also note that enrollment figures are likely to have a higher inter- and intra-state consistency than attendance figures.

not <u>total</u> cost figures. Current operating statistics are used instead of total expenditure figures in order to avoid the distortions caused by the uneven distribution of capital and debt service expenses across districts in any given year. Furthermore, it is not possible in all cases to separate capital outlay from debt service expenditures, and almost never possible to separate capital and debt service revenues at the state level. The current operating expenditures concept provides a relatively undistorted basis for inter-district comparisons. While it is true that current operating statistics will vary among districts partly because of local peculiarities these local peculiarities are most likely a more or less permanent feature of the educational finance picture and as such should be preserved by our statistics.

In the framework of the Office of Education handbook mentioned earlier, total current operating expenditures would be defined as follows:

$$E = \sum_{i=1}^{10} \text{i00 Series} + \text{1400 Series (+1100 Series)}.$$

In practice, the 1100 series is <u>sometimes</u> partially included because it cannot always be eliminated. Our intention is to exclude 1100 series expenses (expenses for community services) whenever possible because they are not considered a part of a "normal" regular day school program for public school pupils.*

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*Community services are "additional responsibilities delegated to the schools over and above their primary function of providing education." Office of Education, <u>op</u>. <u>cit</u>., p. 128.

Using the formula indicated above total current operating expenditures are easily calculated, for in most instances the expenditure accounts are sufficiently detailed to permit application of the formula.

It is not always so easy to obtain the revenue accounts on a current operating basis although clearly it is desirable to do so for purposes of symmetry. Generally, total operating revenues cannot be directly derived from the financial accounting framework. The states do usually divide their state aid between capital outlay and debt service and other aid, however, and it is possible to obtain total state aid for current operating purposes by separating the two elements, i.e.,

S = Total State Aid - State Aid for Capital Outlay/Debt Service

It is not possible on the basis of the available data to separate local revenues into "current operating" and capital outlay/debt service components. However, we derive a figure for local current operating revenues by defining total current operating revenues (R) as the sum of state, Federal and local revenues for current operating purposes,

$$R = S + F + L$$

and defining

$$R = E.$$

Therefore, by definition,

$$E = S + F + L,$$

and local revenues (L) can be derived on a residual basis as the difference between current operating expenditures and the sum of state and Federal revenues, as defined above, i.e.,

$$L = E - S - F.$$

Local revenues defined in this way thus do not correspond to any identifiable revenue categories in the usual accounting framework; even though local revenues may be detailed by type of receipt they are not ordinarily earmarked for any particular category of expenditure.

Federal revenues (F) as defined in this study include all Federal aid.* No deductions are made from total Federal revenues to reflect Federal aid for capital outlay or debt service. Thus, the Federal contribution indicated by our figures is not on a strictly comparable "current operating" basis to the extent that it includes some revenues used for capital outlay or debt service expenditures. This element of inconsistency is inevitable because it is not possible to distinguish at the district level Federal revenues contributed for operational and capital/debt service purposes. We know that in fact many Federal aid programs include some provisions for construction or purchase of equipment. However, the share of Federal aid to construction and purchase of equipment is generally a small part of total Federal aid. According to the "Special Analysis J" of the 1970 U. S. Budget, Federal support of facilities and equipment spending was only $155 million out of a total of $3,694 million in aid to secondary and elementary schools for the U. S. as a whole for FY 1968. Furthermore, the effect of the distortion in the present analysis is mitigated by the fact that total Federal aid comprises a small portion of total revenues available to the average taxing unit.

For these reasons we expect the bias introduced by this procedure to be small. Since L = E - S - F, the direction of the bias is clear. As derived in this study, F is clearly larger than the true "F" when

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*It has been possible to eliminate PL 815 Aid to Impacted Areas, because of the very few instances in which it is granted and because it is solely for construction purposes only.

there is significant Federal aid to construction or equipment spending. In such cases an upward bias occurs in the Federal share. If F is large, L is reduced correspondingly; and a downward bias in L results.

Since R = E = S + F + L, the state, Federal and local revenue figures derived for this study actually represent funds contributed by each level of government to finance current operating expenditures (E) as defined above. In other words, S represents the share of current operating expenditures paid out of state revenues, and L and F represent the local and Federal contributions. For brevity, S, L and F refer below to state, local and Federal shares respectively.

We have emphasized the concept of residents in all of our definitions. This concept is not always straightforward: educational statistics are generally reported on the basis of school districts which may educate children who are not residents of the district. When this is the case the school district normally reports total expenditures and receipts, including amounts expended and received on account of non-resident students.

Therefore, current operating expenditures as reported typically include expenditures for residents ($E^r$) plus expenditures for nonresidents ($E^n$) i.e.,

Reported $E = E^r + E^n$

Similarly, total receipts as reported includes receipts both on account of residents ($R^r$) and nonresident pupils ($R^n$). In order to obtain figures on a resident basis for this study, adjustments are necessary in both the expenditure and the receipts sides of the reported accounts. The general case in which the school district data must be adjusted to take account

of non-residency is one of the taxing unit sending some or all of its students to schools in another district and paying tuition, and/or providing schooling for pupils from another district and receiving tuition. In order to obtain a figure for a taxing unit's current operating expenditures for its resident pupils, the basic figure is, of course, the taxing unit's expenditures on schools that it operates. The relevant expenditure figure on a resident pupil basis is derived by taking this figure plus outgoing tuition payments (expenditure series 1400) less incoming tuition receipts (80-90 series in the receipt accounts).

This treatment of tuition payments creates several problems. One is that actual tuition payments may be used to some extent by the receiving districts to pay for non-current expenses (capital outlay and debt service). Ideally, it is desirable to make the necessary adjustments representing only the fraction of tuition payments that is used for operational purposes. This is not possible, however, because data are not available to make such fine adjustments; but the bias (if any) introduced as a result is not expected to be very large. In practice, tuition charges are usually relatively fixed and therefore do not fluctuate freely with capital expenditures. To the extent that tuition charges are a relatively fixed ordinary cost or receipt of the taxing unit they should properly be reflected in any measure of current expenditures receipts on a resident basis. If in any specific case tuition charges include some amount for extraordinary capital expenses, the resulting current expenditure figures will be overstated somewhat for the paying district and understated for the receiving district.

Another possible problem is introduced by the fact that outgoing tuition payments are assumed in the adjustments to represent actual total current expenditures for resident pupils educated in other school districts. This assumption may be violated in practice. For example, if the tuition-receiving school district receives state or Federal aid on the basis of its total enrollment (i.e., resident and nonresident) it is clear that a portion of the aid funds involved is expended on nonresident pupils. If this situation exists, to a significant extent it is clear that outgoing tuition payments understate total expenditures on resident pupils of the tuition-paying district. This same situation would lead to an over-statement of the state or Federal shares in current expenditures for resident pupils of the receiving district. Because appropriate data again are not available, it is not possible to make the necessary adjustments. However, the distortion does not appear to be very significant in quantitative terms.

The participation of local taxing units in regional or consolidated school systems necessitates special adjustments in reported school district figures. In these cases, expenditures and receipts of the regional school districts are allocated among the constituent towns where pupils attending the regional schools reside. Just as current expenditures of non-regional districts are broken down according to source of funds, an analogous expression for regional systems is:

$$E_r = L_r + S_r + F_r$$

In most cases regional district figures can be obtained directly from published sources. The problem is then to allocate regional district

expenditures ($E_e$) and receipts ($L_r$, $S_r$ and $F_r$) among the constituent local taxing units (towns). This allocation is accomplished on the basis of each constituent taxing units "proportionate share" in the district's total receipts. For purposes of exposition, a given taxing unit's proportionate share of the three regional district revenue figures is designated $P_sS_r$, $P_fF_r$ and $P_lL_r$. The amount of a regional district's current expenditures ($E_r$) attributable to resident pupils of a given taxing unit (i.e., the taxing unit's proportionate share in expenditures by the regional district, designated $P_eE_r$), is then derived as follows:

$$P_eE_r = P_sS_r + P_fF_r + P_lL_r.$$

The factors of proportionality, $P_s$, $P_f$ and $P_l$, are generally based on ratios of equalized valuations, assessed valuations, local tax revenues, memberships or some other measure, depending on district and state practices. The proportions have been determined in accordance with these practices when known. When the particular practices are unknown, or inapplicable, the proportions reflect data availability and conceptual correctness. $P_f$ is defined to equal the constituent taxing units proportionate share of total membership in the regional district whenever the necessary figures are unavailable.

In cases of taxing units that both participate in a regional district and operate some schools of their own (e.g. local elementary schools and a regional secondary school), expenditures and revenues allocated to them as a result of their regional district participation are simply added to figures separately available for the schools that they operate themselves.

A special case should be noted at this point:

School Administrative Districts (S.A.D.'s) in Maine are not treated as regional school districts in this study but as separate taxing units. This procedure is followed because all the schools attended by pupils residing in the constituent towns are operated by the S.A.D.'s, and the towns (at the time of our data) all paid the same effective tax rate on equalized valuations. Furthermore, the available statistics are aggregated at the S.A.D. level. We could not obtain the information necessary to disaggregate this data.

As described above in detail, the expenditure figures (and the resultant shares contributed by state, Federal and local government) used in this study are defined on a current operating basis, excluding capital outlay and debt service expenses. The difficulty, believed to be a minor one, caused by inability to deduct non-current items from the Federal share (F) has already been discussed. A more general difficulty affecting interstate comparisons must be noted at this point. The local share (L) is derived on a residual basis, and, as a result of the procedure employed in this study, excludes expenditures for capital outlay and debt service. The magnitude of L, however, is affected by the distribution of total state aid between current and non-current aid programs. Thus, if a particular state tends to give a relatively large portion of its total school aid in the form of aid to non-current expenditures, the state share (S) as defined in this study will be reduced relative to the level that would result if its overall school aid program placed a heavier emphasis on aid for current operations. Clearly the individual district is helped just as much by a fixed amount of state aid funds, regardless of how that total amount is

split between current and non-current spending.* But, one must be wary of interstate comparisons of relative state, local and Federal shares since these figures do not reflect the relative shares of state aid going to capital outlay/debt service expenditures.

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*This is true as long as the district has to pay for the aided functions out of its own funds if the state does not contribute. To the extent that the state aid may have stimulated district expenditures which would otherwise not have been undertaken or which are of a lower priority than unaided expenditures the situation becomes more complicated.

Sources and Compilation Procedures

Following is a brief description by state of the main sources of information and the procedures utilized to calculate the statistics of this study. Unless otherwise indicated, all of the source material comes from the various state Departments of Education. The procedures used to compile the statistics are based on the conceptual categories as outlined in the first part of this Appendix.

CONNECTICUT

Part I - Data Sources

Document #1 - A printed report titled "Local Education Finance 1967-68" and published by the Connecticut Education Association. The document presents information in tabular form concerning local taxes and educational finance for the school districts.

Document #2 - A mimeographed sheet titled "State Grant Payments Made During School Year 1967-68." This document from the Connecticut State Department of Education provides a breakdown of the State aid program.

Source #3 - A collection of information derived from items of the school district reports on file with the State Department of Education. The information includes an analysis of membership figures for regional school districts and a breakdown of regional revenues for current operation from sources other than member town assessments.

Part II - Compilation Procedures

Current Operating Expenditures

(a) Unaffiliated Towns

This statistic is obtained from Document #1, Table II, "Total Current Expenditures for Day School (Less Tuition)." (The amounts as given include summer school tuition.)

(b) Affiliated Towns

Current Operating Expenditures is the sum of the Local, State, and Federal Shares for each town.

State Share

(a) Unaffiliated Towns

This statistic is derived by subtracting the amounts for vocational

and for vocational agriculture in Document #2, from total state aid, given in Document #1, Table II, "State Grants." The balance is the state share.

(b) Affiliated Towns

The state share for affiliated towns is the sum of (1) the state share figure for the district operated by the town, and (2) the town's part of the regional figure for state share. The former is derived in the same manner as for the unaffiliated towns. The latter is derived from Source #3 and is checked against the information of Document #2. The regional share is divided among its members by multiplying the total amount by a ratio of the town's pupils in membership of the regional district to the total regional district membership.

## Federal Share

(a) Unaffiliated Towns

This is the set of figures from Document #1, Table II, "Federal Grants."

(b) Affiliated Towns

This statistic is the sum of (1) the Federal share for the district operated by the town, and (2) the town's portion of the regional Federal share. The former is derived as above for unaffiliated towns; the latter is obtained by applying the ratios used to calculate the division of the regional state share to the figures for regional Federal share from Source #3.

## Local Share

(a) Unaffiliated towns

The Local Share is derived on a residual basis as the difference

between Current Operating Expenditures and State and Federal Shares.

(b) Affiliated Towns

This figure is the sum of (1) the local share for the district operated by the town (calculated according to the procedure for unaffiliated towns), and (2) the town's portion of the regional local share figure. The regional local share is the residual from Source #3, having subtracted state and Federal revenues and regional assessments of member towns for operational purposes from the regional current operating expenditures. The residual is divided among member towns on the basis of membership ratios as above.

Equalized Valuation

For all towns this figure appears in Document #1, Table I, "Net Grand List (1967)" adjusted by the "Assessor's Percent" of the same table.

Resident Membership

For all towns this statistic is taken from Document #1, Table II, "ADM 1967-68."

MAINE

Part I - Data Sources

Document #1 - A copy of a computer printout containing a breakdown of expenditures by school district. Expenditures are classified according to function and are distributed among elementary, secondary, adult and summer school programs.

Document #2 - A copy of a computer printout listing revenues by school district. The data is classified by source and aggregated by local appropriations, state funds and other sources.

Document #3 - A computer printout titled "Federal Subsidies, School Lunch Program, Maine 1965-66." This document shows amount of Federal aid received by districts for School Lunch and Special School Milk programs.

Document #4 - A pamphlet series titled "Maine School Statistics," copies for January 1967 and for July 1, 1966-June 30, 1967. The statistics include an analysis of expenditures and state aid programs and data on equalized valuations and resident memberships.

Source #5 - Copies of ledger entries provided by the Maine Department of Education giving information on the distribution of Federal aid under the Elementary and Secondary Education Act (ESEA), Titles I and II.

Source #6 - Special information supplied by the Department of Education regarding resident enrollments for certain member towns of school administrative districts.

Part II - Compilation Procedures

General note: The School Administrative Districts in Maine are treated here as individual taxing units; their receipts and expenditures, then, are not allocated to the towns which comprise them. This procedure is followed because the data to make a finer analysis is not readily available. In addition, this treatment may be justified by the fact that all of the member towns within a particular S.A.D. have the same equalized tax rate at the time of this writing.

Those regional districts that do not behave as the S.A.D.'s with respect to the tax rate are not included in this study. Maine, therefore, has only one compilation category instead of the usual two.

Current Operating Expenditures

From Document #1, total expenditures for elementary and secondary education are summed, excluding community service, capital and debt service accounts and balance items (accounts 11xxx, 12xxx, 13xxx, 19xxx). From these sums are subtracted incoming transfer receipts (accounts 008xx and 00310) of Document #2. Amounts are added for: (1) Federal aid to School Lunch and Special Milk programs, from Document #3, and (2) funds for ESEA, Titles I and II, from Source #5. The resulting totals are Current Operating Expenditures.

State Share

The sum of state aid for current operating expenditures represents the State Share statistic. Revenues from the state are listed in Document #2, accounts 032x, 0371, 0373 and 0390.

## Federal Share

The Federal Share is derived as the sum of (1) revenues from Federal sources of Document #2 (accounts 04xx); (2) funding for School Lunch and Special Milk programs, Document #3; and (3) moneys received under ESEA Titles I and II, Source #5.

## Local Share

The Local Share is derived on a residual basis as the difference between Current Operating Expenditures and State and Federal Shares.

## Equalized Valuation

The appropriate figures appear in Document #4, Section I, "State Valuation 1966."

## Resident Membership

This statistic is the sum of elementary and secondary enrollment figures from Document #4, Section I, "April 1st Resident Enrollment 1966."

NOTES:

1. The towns of Deblois, East Plantation, Elliottsville Plantation, Grand Falls Plantation, and Kingsbury Plantation have been omitted from this study because they had no enrolled pupils during the year of interest.

2. The following towns are not included in the study because they belong to regional school districts: Boothbay, Boothbay Harbor, Franklin, Gouldsboro, Sorrento, Steuben, Sullivan, and Winter Harbor. Data for regional school districts is insufficient to define statistics for their member towns consistent with those of other towns.

MASSACHUSETTS

Part I - Data Sources

Document #1 - A printed report titled "Annual Report of the Department of Education for the Year Ending June 30, 1967 - Part II, Section B." This document contains several tables of particular interest:

Tables I, II and III: enrollment and attendance data for regular day school and special and vocational education programs;

Table V: population and valuation information;

Appendix: source and application tables for individual school districts, showing the sources and uses of funds by category.

Document #2 - A printed report titled "Annual Report of the Department of Education for the Year Ending June 30, 1967 - Part II, Section A." Table I gives information on school attending children including a division into categories of public, private, regional, and vocational and a subdivision of local and non-local basis.

Document #3 - A mimeographed sheet of 1966-67 regional school assessments. The document shows both current operating and capital/debt service components of the assessments to member towns.

Document #4 - A mimeographed sheet titled "Regional School Districts." The document describes the regional districts, their member towns, their organization and opening dates, etc.

Part II - Compilation Procedures

Current Operating Expenditures

(a) Unaffiliated Towns

Using the source and application tables of Document #1, Appendix,

all items identified as capital and debt service expenditures and expenditures on non-resident pupils are subtracted from total expenditures to arrive at Current Operating Expenditures, viz., from "Total Public School Funds Applied" are subtracted: "Acquisition of Fixed Assets," "Debt Retirement and Debt Services," "From Other Districts and Member Towns," "Tuition and Transportation of State Wards," and "Regional School Assessments." (The last item, "Regional School Assessments" is, of course, zero for the non-regional towns.)

(b) Affiliated Towns

For the towns affiliated with regional school districts, Current Operating Expenditures is the sum of their respective local, state, and Federal shares.

State Share

(a) Unaffiliated Towns

Capital and debt service aid and aid on account of non-resident pupils ("School Building Assistance" and "Tuition and Transportation of State Wards") are subtracted from total state aid ("Revenues from the Commonwealth"). The balance is the "state share."

All figures are from Document #1, Appendix.

(b) Affiliated Towns

The state share statistics for towns affiliated with regional school districts is the sum of two or more components: (1) the state share for the school district operated by the town, and (2) its portion(s) of the state share(s) for the regional school district(s) to which it belongs, whether regular or vocational regional districts.

The town's state share and the regular regional districts total state share are both calculated according to the procedure for non-regional towns. The town's portion of the latter is determined by multiplying the regional state share figure by the ratio of the number of resident pupils of the town enrolled in the regional school district to the total enrollment of the regional, from Document #2, Table I.

The total state share for vocational regional districts is also determined by the procedure for non-regional towns, but the total is adjusted by multiplying it by the ratio of "Total Regional School Funds Applied" to "Total Available Funds," also in Document #1, Appendix.*

The adjusted total is apportioned among the member towns by multiplying by a ratio of the town's assessment for regional current operating expenditures to the regional vocational districts total assessments for current operating purposes,** from Document #4.

Federal Share

(a) Unaffiliated Towns

The Federal Share statistic is the total Federal aid received under "Revenue from the Federal Government" in Document #1, Appendix.

(b) Regional Towns

The Federal Share for towns affiliated with regional districts consists of the same components as the State Share for these towns and is calculated by the same sort of procedure. Federal shares for the town's

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*This adjustment is necessary because many of these districts had unusually large ending balance surpluses, having been but recently organized.

**Pupil enrollment ratios were unattainable in this case. According to the Massachusetts State Department of Education, the ratio of assessments are roughly proportional to membership.

district and the regional districts are calculated as for non-regional towns, adjusting the figures for the vocational regional districts by the same ratios used in the calculation of their state shares. The town's portions of the regional Federal shares are also determined in the same manner as the state shares. The sum of the components assigned to each represents its Federal Share.

Local Share

(a) Unaffiliated Towns

The Local Share is derived on a residual basis as the difference between the Current Operating Expenditures and the amounts financed from State and Federal sources.

(b) Affiliated Towns

The Local Share is the sum of components analogous to those of the State and Federal Shares of towns affiliated with regional districts. Components for the town's district and for the regional districts are derived on the same residual basis as the Local Share for non-regional towns. (Current operating expenditures for regional districts are computed in the same way as for non-regional towns.) The town's portion of the regional local share is obtained in all cases by multiplying the regional figure by the ratio of the town's assessment for current operating expenses to the total regional assessment for same, as calculated from Document #3.

Equalized Valuation

For all districts, Equalized Valuation is taken from Document #1, Table V, column "Valuation H.B. 4098." (The listing is given in thousands of dollars.)

Private School Pupils

For all districts, this statistic is taken from Document #2, Table I. Figures from the column labeled "Private" are added to obtain the total for each town.

Resident Membership

For all districts, this statistic is derived as the difference between the total number of children attending school (Document #2, Table I) and the "private school pupils." (The results have been checked for consistency with Document #2, Table IV, and Document #1, Table I. Appropriate adjustments have been made for discrepancies between tables.)

NOTES:

Several exceptions have been made to the above procedures.

1. Regional assessment components have not been included in the statistics for the following towns, although they list regional assessment figures in their source and application tables (Document #1, Appendix): Chesterfield, Southampton, Westhampton, and Williamsburg of Hampshire Regional District; Melrose, North Reading, Reading, Revere, Saugus, Stoneham, Wakefield, Winthrop and Woburn of Northeast Metropolitan Vocational Regional District; Warren of Quaboag Regional District; Taunton of Bristol-Plymouth Vocational Regional District; and Harwich.

The towns involved either could not be assigned to a regional district or belong to a regional district unlisted among the sources and application tables, according to the information of Document #4. The regional districts as above were at the time only in the organizational stages; and the assessments shown for the towns, adjusted for capital

and debt service charges, are small relative to total current operating expenditures of the towns. These considerations seem to justify omission of the regional components.

2. The following regional vocational school districts have not been included in the calculation of the study: French King, Montachusett, Nashoba Valley, and Shawsheen Valley Regional Vocational Districts. These districts either were not yet operative or had been abolished. The amounts involved, adjusted for capital and debt service, again are small relative to total current operating expenditures of the member town.

3. Adjustments have not been made for the listed assessments of the towns of the Quabbin Regional School District: Barre, Hardwick, Hubbardston, and Oakham. Because the regional district was not in an operational stage, its source and application table is not available. Although the amounts, unadjusted for capital and debt service, are not small relative to the total expenditures of the member towns (up to 10 percent in some cases), it would seem that most of the moneys could not reflect current operating expenditures inasmuch as the schools were not in operation.

NEW HAMPSHIRE

Part I - Data Sources

Document #1 - A computer printout titled "Expenditures by District--1966-67 Financial Reports." This document gives a breakdown by category codes of all expenditures listed in the district reports.

Document #2 - A computer printout titled "Receipts - 1966-67 Financial Reports." This document lists by source (local, state and Federal governments) and category codes all receipts listed in the district reports.

Document #3 - A mimeographed report titled "1966-67 Average Daily Memberships based upon Attendance and Residence." This document lists by school district ADM in attendance and in residence. The data are broken down in both categories into elementary, high school and total figures.

Document #4 - A mimeographed report titled "Cooperative School Districts as of July 1, 1968--Part I Administrative Structure." This document lists the cooperative or regional school districts, and their member districts, grade structure, date of operation, the number of members on school board from each member district, and the financial apportionment formulas used to allocate the local share of expenses among the member districts.

Document #5 - A mimeographed report titled "Valuations, Property Tax Assessment and School Tax Rates of School Districts 1966-67."

Document #6 - A mimeographed report titled "Distribution of State Foundation Aid to New Hampshire School Districts--1966-1967 Table of Computations."

This document lists the state foundation aid payments and gives the

information used by the state to derive the amount of the payment.

Part II - Compilation Procedures

Current Operating Expenditures

(a) Unaffiliated Towns

The sum of district expenditures is taken from Document #1 (equal to the sum of accounts 1xxxx-14xxxx and excluding the balancing items). All amounts coded as expenditures on capital, debt service, and community services (accounts 11xxxx-13xxxx and 147750) are subtracted from the total expenditures. Then, all items identified in Document #2 as non-capital or debt service incoming transfer accounts (accounts 8100, 8200, 8900, and 9xxx) are subtracted from the expenditure figure. This balance is the Current Operating Expenditures statistic.

(b) Affiliated Towns

For towns that are members of regional districts, Current Operating Expenditures is derived as the sum of the local, state and Federal shares for each town.

State Share

(a) Unaffiliated Towns

The state share is the sum of the non-capital and debt service revenues from state sources listed in Document #2 (accounts 3xxx, excluding 32xx).

(b) Affiliated Towns

Because the regional or cooperative districts report on a consolidated basis in the source documents, the total state share for each is calculated as above for non-regional towns. This total is then allocated among the towns which are members of the district as follows: figures for

state foundation aid distributed to each of the member towns are taken from Document #6 and summed; this sum is subtracted from the regional district's total state share. The balance represents state aid funds given directly to the regional district; it is allocated among the member towns on the basis of resident ADM for 1964-65,* also from Document #6. The sum of the town's foundation aid and its share of the district's state aid is the regional town's State Share.

Federal Share

(a) Unaffiliated Towns

The Federal Share statistic is the sum of Federal revenue receipts listed in Document #2 (accounts 4xxx).

(b) Affiliated Towns

The regional district Federal share is derived as for the non-regional towns. This total is then distributed among the member towns on the basis of 1966-67 Resident ADM figures obtained from Document #3 to represent their Federal Share.

Local Share

(a) Unaffiliated Towns

The Local Share is derived on a residual basis by subtracting the State and Federal Shares from the Current Operating Expenditures.

(b) Affiliated Towns

The local share for the regional district as a whole is derived as for the non-regional towns: a current operating expenditures figure

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*This is in accordance with current practice in the state.

for the regional district is obtained in accordance with the procedure for non-regional towns; the regional Federal and state shares, as calculated in procedure above, are subtracted from this expenditure figure. This result represents the combined local share for the towns comprising the regional district which is then distributed among the member districts according to the financial apportionment formulas of Document #4.

Equalized Valuation

For all districts, Equalized Valuation is taken from Document #6. (The 1964 valuations used here are the most recent which are available by school district.)

Resident Membership

For all districts, Resident Membership is taken from the listing of "Resident Membership, Total" of Document #3.

NOTE:

Winnacunnet Cooperative District and Dresden Regional District are exceptions to the procedure for affiliated districts. The former is only a high school district and calculation for its member towns must be made in two parts: the statistics for elementary schools are done in accordance with the procedure for non-regional towns; the high school statistics are derived in the same manner as for other regional towns. The sum of the two parts is the final figure for each of the member towns. The latter exception is an interstate regional district, but only data for the Hanover (N.H.) portion is represented.

RHODE ISLAND

Part I - Data Sources

Document #1 - A printed document titled "1966-67 Statistical Tables." Of the various tables of information on schools, the following have been used:

Table 8 - data on resident membership, listed by district and grade;

Table 25 - data on current operating expenditures listed by source (state, Federal, and local) and given on a resident pupil basis.

Document #2 - A typewritten listing of expenditures under the Elementary and Secondary Education Act, Titles I and II, prepared by the Rhode Island Department of Education upon request.

Document #3 - A mimeographed sheet titled "1966 Equalized Weighted Assessed Valuation for Rhode Island Municipalities." The document includes full values based upon 1965 market values.

Document #4 - A typewritten sheet titled "Regional Schools General Appropriations," prepared by the Rhode Island Department of Education upon request. The appropriations are local assessments for regional operation.

Document #5 - A letter from the Department of Education with a table titled "ADM for Regional Schools." The table is a breakdown of regional ADM among member towns.

Part II - Compilation Procedures

Current Operating Expenditures

(a) Unaffiliated Towns

To "Net Current Expenditures" of Document #1, Table 25, are added

the amounts for ESEA, Titles I and II from Document #2. The total is Current Operating Expenditures.

(b) Affiliated Towns

This statistic is derived as the sum of the Local, State, and Federal Shares.

State Share

(a) Unaffiliated Towns

State Shares are listed in Document #1, Table 25, "State Share."

(b) Affiliated Towns

Figures for the town and for the regional district are obtained as for unaffiliated towns. The member's part of the regional figure is derived by multiplying the regional state share by the ratio of the town's resident pupils in membership of the regional to total regional membership. Membership data is from Document #5.

The State Share is then the sum of the town's state share and the town's part of the regional district's amount.

Federal Share

(a) Unaffiliated Towns

This is the sum of "Federal Share" from Document #1, Table 25, and of funds for ESEA Titles I and II from Document #2.

(b) Affiliated Towns

The Federal Share is the sum of the town's district figures and the town's part of the regional amount as for the State Share. The town and the regional figures are derived as for unaffiliated town's the latter is distributed by the membership ratios as above.

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## Local Share

(a) Unaffiliated Towns

The Local Share is derived on a residual basis as the difference between Current Operating Expenditures and the State and Federal Shares.

(b) Affiliated Towns

The share is again the sum of a town figure and a portion of the regional figure. The former is calculated as for unaffiliated towns; the latter is given in Document #4.

## Equalized Valuation

For all towns, this statistic is taken from Document #3, "Full Value."

## Resident Membership

(a) Unaffiliated Towns

Memberships are listed in Document #1, Table 8, "Total, Pre K - 12."

(b) Affiliated Towns

The town's resident membership from Document #1, Table 8, "Total Pre K - 12," is added to the town's share of regional membership from Document #5. The total is the Resident Membership.

VERMONT

Part I - Data Sources

Document #1 - A printed report titled "1967-1968 Financial Statistics - Vermont School System." The report contains the following tables useful in this study:

Table II: data on general state aid to individual school districts, including average daily memberships of resident pupils;

Table IV: data showing receipts by source of school districts and union school districts;

Table V: data on current expenditures of school districts and union school districts.

Document #2 - A printed booklet titled "Vermont Educational Directory, 1968-1969." The document includes a listing of school districts, superintendencies and their districts, and union school districts and their member towns. (The organization of school districts given in the directory is the same as for 1967-1968 with one exception, Sherburne was unaffiliated in 1967-68, a member of Woodstock Union High School District in 1968-69.)

Document #3 - A mimeographed report titled "National School Lunch & Special Milk Programs." The report shows the amounts of Federal funds expended for these programs during fiscal year 1968, by school districts.

Document #4 - A written report titled "Title I, ESEA: FY 1968 Project Expenditures." This document lists by superintendency the amounts expended and the number of children served by Federal funding under Title I

of the Elementary and Secondary Education Act (P.L. 89-10).

Document #5 - A mimeographed report of the distribution of Federal funds to school districts in 1968 under Title II of the Elementary and Secondary Education Act.

Document #6 - A mimeographed report including the 1 percent fair market values for all school districts.

Document #7 - A mimeographed report titled "Maximum Basic Grants, Amounts Approved and Amounts Expended for Projects under Title I of P.L. 89-10 by Local and State Agencies." The document lists maximum grants for local educational agencies for 1966 and 1967 and the amounts approved and expended for 1966 under Title I, P.L. 89-10.

Part II - Compilation Procedures

Current Operating Expenditures

(a) Unaffiliated Towns

Operating expenses and outgoing transfers, less incoming transfers, are the basic data for Current Operating Expenditures for residents of towns which are not members of Unión School District. This amount, however, understates operating expenses because School Lunch and Special Milk programs and projects funded under the Elementary and Secondary Education Act of 1965 (ESEA) are not considered part of the regular expenses in the Vermont data. The calculation for this statistic thus becomes: the addition of "Total Operating Expense" and "Outgoing Transfer Expense" from Document #1, Table V; the subtraction from the preceding sum of "Incoming Transfer Accounts," Document #1, Table IV; the addition to this balance of funds for (1) School Lunch and Special Milk programs;

(2) Title I and (3) Title II projects of ESEA, from Documents #3, 4, and 5 respectively. (Because Title I project expenditures are listed by superintendency, the funds must be distributed among school districts in proportion to previous amounts expended. The procedure is more precisely explained in the description of Federal Share below.) This total becomes the Current Operating Expenditures statistic.

(b) Affiliated Towns

The sum of Local, State, and Federal Shares is the Current Operating Expenditures statistic for towns affiliated with union school district.

State Share

(a) Unaffiliated Towns

The sum of "General State Aid" and "State Vocational Aid" from Document #1, Table IV, is the State Share statistic.

(b) Affiliated Towns

The sum of the town's state share for its own schools and its portion of the union school districts state share is the State Share for those towns affiliated with union school districts. The town's individual share and the total union share are calculated as non-regional shares are. The union share is distributed among its members by the ratios of the town's resident average daily membership (ADM) to the union's total ADM.

The total membership of the union school district is derived by: determining the type of union (elementary and/or secondary) from the list "Union School Districts in Vermont" of Document #2; and summing the appropriate resident ADM figures for the members, given in Document #1,

Table II.*

Federal Share

(a) Unaffiliated Towns

The Federal Share is the sum of: (1) "Revenue from Federal Sources," from Document #1, Table IV; (2) funds for School Lunch and Special Milk programs, from Document #3; (3) funds for projects under Title I, ESEA, from Document #4; and (4) funds for projects under Title II, ESEA, from Document #5.

The first, second, and fourth components of the sum are obtained directly from the documents for the school districts. Allocation of Title I funds among the towns must be derived, however, because data for 1967-68 are available only on the basis of superintendencies. Unless the superintendency involves only one town's school district, which then receives the full amount shown in Document #4, the funds are distributed in proportion to the amounts expended in 1966 by members of the superintendency. Ratios for this distribution are derived from Document #7, taking the amount expended by local educational agency to the sum of amounts expended by all districts of the superintendency and applying these ratios to the figures of Document #4. The superintendencies and their members are listed in Document #2, "The 53 Superintendencies."

(b) Affiliated Towns

This statistic is calculated as for unaffiliated towns, with the

*The division between elementary and secondary follows district practice in the record of the State Department of Education. The break occurs then, after Grade 6 or Grade 8 according to the school's organization so that there is no difficulty summing for union districts which may be divided at either grade.

addition of the town's portion of the Federal share of the union school district. The union Federal share consists of the components as above, and is apportioned according to the ratios used to divide the union state share.

## Local Share

(a) Unaffiliated Towns

This statistic is derived on a residual basis as the difference between Current Operating Expenditures and the State and Federal Shares.

(b) Affiliated Towns

The Local Share for towns affiliated with union school districts is the sume of (1) a local share residual for the town's district and (2) its portion of the union school district's local residual, both derived as for unaffiliated towns.

Current operating expenditures figures for town and union school districts can be calculated in the same manner as unaffiliated towns are. Respective state and Federal shares have been used in the procedures above.

## Equalized Valuation

For all districts, Equalized Valuation is the 1% fair market value from Document #6 multiplied by a factor of 100.

## Resident Membership

For all districts, Resident Membership is the sum of the elementary and secondary figures in Document #1, Table II, "Resident Pupils, Average Daily Membership."

NOTES:

Several districts require exceptional adjustments in the above procedures:

1. In Document #3, the data for Bennington includes both Bennington elementary schools and Union High School District #14. A separation of the two has been made according to membership ratios, as the necessary data are unavailable. Also under the School Lunch and Special Milk programs: "Brandon" includes Brandon ID and Brandon Town which have been divided according to information furnished by the Vermont State Department of Education; allocations for East Hardwick have been added to Hardwick's, North Danville to Danville's and Gilman to Lunenburg's upon the advice of the State Department of Education.

2. In several instances, the Library Need component of Vermont's formula for ESEA Title II distribution is a composite figure for several towns; the amount has been distributed among the towns in proportion to the "Per Capita Need" part of the formula. This adjustment has been made for towns of the following superintendencies: Rutland Northeast, Essex Caledonia (except Concord), and Caledonia North.

3. Chittenden and Mendon are treated as affiliated towns due to their membership in the Joint Contract Elementary School of Barstow. (Pittsford is also in Barstow, but is affiliated in addition with Union High School District #8; it is the only instance of dual affiliation in Vermont). The joint contract school is not technically a union school district and so does not appear in the list of Document #2. Its funds, however, are distributed according to procedures for union schools.

(Figures given for Chittenden under Documents #3 and 5 are for Barstow, according to the State Department of Education.)

4. State Vocational Aid figures for several districts have been reduced to allow for large amounts of construction aid included: Barre City and Union High School Districts 18 and 22. No breakdown is available for this aid program as to application of the funds and in most cases the amounts involved are small enough not to overstate the state share greatly. For the above which have exceptionally large amounts of aid, a derived figure has been substituted based upon the average per pupil amounts of aid received by secondary schools operating vocational programs. Other districts have been compared with 1965-66 data to check for large changes in state vocational aid receipts which would suggest construction aid.

# APPENDIX II

## CALCULATION PROCEDURES FOR ANALYSIS OF HYPOTHETICAL EQUALIZING STATE AID SYSTEMS

### Notation

e = current expenditures per pupil

r = "Basic" school tax rate

E = total current expenditures

L = local share in E

S = state aid in support of E

P = number of pupils

V = equalized valuation

The subscript i denotes data for individual districts, either actual present data or results of calculations under hypothetical systems. An asterisk designates a value set explicitly as a policy objective (e.g., e* represents a target per pupil spending level) or a value implied by a given policy target (e.g., setting a state-wide target e* implies total expenditures of $E_i^* = e^*P_i$ for the ith district). Symbols in parentheses represent state totals.

### Model I: State-Wide Property Tax (100% Local Financing)

(A) Per-Pupil Spending Target

1. target = e* (set by state)
2. required expenditures = (E*) = e*(P)
3. implied uniform tax rate = $r^* = \frac{(E^*)}{(V)}$
4. required local contribution for each district = $L_i^* = r^*V_i$
5. required expenditures for each district = $E_i^* = e^*P_i$

6. district receipt from (+) or payment to (-) redistribution

$$\text{fund} = R_i^* = R_i^* = E_i^* - L_i^* = e^*P_i - r^*V_i \qquad \Sigma R_i^* = 0$$

(B) Uniform Tax Rate Target

1. target = r* (set by state)
2. total expenditures implied = (E*) = r*(V)
3. resultant per pupil spending = $e^* = \frac{(E^*)}{(P)}$

Other calculations as in (A) for individual districts.

Model II: State-Wide Property Tax Plus Fixed State Aid

(A) Per-Pupil Spending Target

1. target = e* (set by state)
2. required expenditures = (E*) = e*(P)
3. state funds available = (S*)
4. required local share = (L*) = (E*) - (S*)
5. implied uniform tax rate = $r^* = \frac{(L^*)}{(V)}$
6. as in Model I, R* = E* - L*; however, since state funds are distributed, $\Sigma R^* = (S^*)$ in this case.

(B) Uniform Tax Rate Target

1. target = r* (set by state)
2. required local contribution = (L*) = r*(V)
3. state funds available = (S*)
4. total expenditures implied = (E*) = (L*) + (S*)
5. resultant per-pupil spending = $e^* = \frac{(E^*)}{(P)}$

Other calculations as in (A) for individual districts.

(C) Constraint to Avoid Redistributive Transfers

This is an example of a program where the state effectively sets targets

for e* and r*; the amount of state aid required, (S*), is no longer fixed.

1. target = e* (set by state)
2. in order to avoid redistribution, the state sets $r^* = \frac{E^*_w}{V_w}$, where the subscript denotes the wealthiest district, in terms of $(V/P)_i$, and $E^*_w = e^*P_w$.
3. required local share = (L*) = r*(V)
4. implied state funds required = (S*) = (E*) - (L*)

(D) Effect of Prorating

This is an example of a program where the state sets explicit targets for e* and r*, and again, a required state contribution, (S*), is determined. The impacts of prorating available state funds to meet the constraint of an actual state aid budget (S') less than (S*) are examined under two different assumptions.

1. targets = e* and r* (set by state)
2. required expenditures = (E*) = e*(P)
3. required local share = (L*) = r*(V)
4. implied state contribution required = (S*) = (E*) - (L*)
5. state aid required for individual district =

$$S^*_i = E^*_i - L^*_i = e^*P_i - r^*V_i$$

(Note: $S^*_i$ may be negative)

6. given (S') < (S*), a prorating factor is determined: $f = \frac{(S')}{(S^*)}$
7. for each district, actual state aid = $S'_i = fS^*_i$

CASE A--Assume expenditure target is maintained (so that $e^*_i = e^*$) and districts adjust by changes in tax rates, deviating from the target r*.

A1. Actual local contribution for individual district =

$$L'_i = E^*_i - S'_i = e^*P_i - S'_i$$

A2. Actual local tax rate for individual district =

$$r' = \frac{L_i'}{V_i} \gtrless r^*$$

CASE B—Assume uniform tax rate target is maintained (so that $r_i^* = r^*$) and districts adjust by changes in expenditures, introducing deviations from the target e*.

B1. Actual expenditures of individual districts =

$$E_i' = L_i^* + S_i' = r^*V_i + S_i'$$

B2. Actual per-pupil spending levels for individual districts =

$$e_i' = \frac{E_i'}{P_i} \quad e^*$$

Model III: Percentage Equalizing Without Redistribution

1. target = e* (set by state)
2. required expenditure for each district = $E_i^* = e^*P_i$
3. determine capacity measure for wealthiest district = "max." $(V/P)_i$
4. the state aid ratio, or state share, for each district =

$$(\%S)_i = \left[1 - \frac{(V/P)_i}{\text{max. } (V/P)_i}\right]$$

5. required state aid for each district = $S_i^* = (\%S)_i E_i^*$
6. total state aid required = $(S^*) = \sum_i S_i^*$
7. for any given target, e*, each district's required tax rate is the same: $r^* = \frac{(E_i^* - S_i^*)}{V_i} = r^*$

Model IV: Percentage Equalization, With Redistribution

(A) Unconstrained system based on "average" district. Under this type of program, the state sets a per-pupil expenditure target, e*, and specifies some share (Q) of program expenditures that the "average" district must pay.

Calculations are the same as in Model III except that the formula for the state aid ratio is different. It is based on the capacity of the "average" district, i.e., (V)/(P), and it incorporates Q:

$$(\%S)_i = \left[1 - \left(\frac{(V/P)_i}{(V)/(P)}\right) Q\right]$$

For any given target e*, equality of district tax rates is maintained ($r_i^* = r^*$).

(B) Impact of constraints in system based on "average" district. Calculations are the same as in (A), but the state aid ratio is constrained in three different ways. In each case, variance is introduced in $r_i^*$, the local tax rate required to finance the target program.

1. $(\%S)_i \geq 0$ This constraint eliminates the requirement of redistributive transfers implied by negative state aid ratios. Therefore, for rich districts, required tax rates, $r_i^*$, will be reduced relative to an unconstrained program.

2. $(\%S) \geq 0.2$ This constraint guarantees state aid ratios of at least 0.2 to all districts' all districts with %S<0.2 in the unconstrained version benefit as a result and can finance the program with lower relative tax rates.

3. $(\%S) \leq 0.8$ By prohibiting state aid ratios in excess of 0.8, this constraint forces the poorest districts to impose relatively higher tax rates in order to finance the target program.

## SELECTED REFERENCES


Advisory Commission on Intergovernmental Relations, Fiscal Balance in the American Federal System, Vols. 1 and 2, Washington: 1967.

_____, "Fiscal Measures for Equalizing Educational Opportunities for Economically and Socially Deprived Children," in 1968 State Legislative Program, Washington: 1967.

_____, "Metropolitan Educational Equalization Authority," in ACIR State Legislative Program--New Proposals for 1969, Washington: 1968.

_____, State Aid to Local Government, Washington, 1969.

_____, "State Financing of Public Elementary and Secondary Schools," ACIR State Legislative Program--New Proposals for 1970, Washington: 1969.

Allen, James E., Jr., "The State, Educational Priorities, and Local Financing," Integrated Education, Vol. VI, September-October 1968, pp. 55-61.

Benson, Charles S., The Economics of Public Education, Boston: Houghton-Mifflin Co., 1961.

Bishop, George A., "The Property Tax and Local Spending--A Need for Balance," Federal Reserve Bank of Boston, New England Business Review, December 1962, pp. 1-5.

_____, "Stimulative Versus Substitutive Effects of State School Aid in New England," National Tax Journal, Vol. 17, June 1964, pp. 133-43.

Bolton, Dale L., "Some Aspects of Equalizing Educational Opportunity and Taxation Burden," National Tax Journal, Vol. XI, December 1958, pp. 354-361.

Bowles, Samuel and Henry M. Levin, "The Determinants of Academic Achievement--An Appraisal of Some Recent Evidence," Journal of Human Resources, Vol. 3, Winter 1968, pp. 3-24.

Campbell, Alan K., "Inequities of School Finance," Saturday Review, Vol. LII, January 11, 1969, pp. 44-48.

Clark, Kenneth B., "Alternative Public School Systems," Harvard Educational Review, Vol. 38, Winter 1968, pp. 100-113.

Cohen, David K., "The Economics of Inequality," Saturday Review, Vol. LII, April 19, 1969, pp. 64ff.

Coleman, James S., "The Concept of Equal Educational Opportunity," Harvard Educational Review, Vol. 38, Winter 1968, pp. 7-22.

_____, et al., Equality of Educational Opportunity, Washington: U.S. Government Printing Office, 1966.

_____, "Equal Schools or Equal Students?" The Public Interest, No. 4, Summer 1966, pp. 70-75.

Committee on Educational Finance, National Education Association, The Challenge of Change in School Finance, Proceedings of the Tenth National Conference on School Finance, Washington: NEA, 1967.

_____, Interdependence in School Finance: The City, The State, The Nation, Proceedings of the Eleventh National Conference on School Finance, Washington: NEA, 1968.

_____, Partnership in School Finance, Proceedings of the Ninth National Conference on School Finance, Washington: NEA, 1966.

_____, Trends in Financing Public Education, Proceedings of the Eighth National Conference on School Finance, Washington: NEA, 1965.

Conant, James B., Slums and Suburbs, New York: McGraw-Hill Book Co., Inc., 1961.

Congressional Quarterly Service, Federal Role in Education, Washington: 1965.

Coons, John E., William H. Clune III, and Stephen D. Sugarman, "Educational Opportunity: A Workable Constitutional Test for State Financial Structures," California Law Review, Vol. 57, April 1969, pp. 305-421.

_____, Private Wealth and Public Education, Cambridge: Harvard University Press, forthcoming, May 1970.

Cornell, Francis G., "Grant-in-Aid Apportionment Formulas," Journal of the American Statistical Association, Vol. XLII, March 1947, pp. 92-104.

Daly, Charles U. (ed.), The Quality of Inequality: Urban and Suburban Public Schools, The University of Chicago Center for Policy Study, 1968.

Daniere, Andre, Cost Benefit Analysis of General Purpose State School-Aid Formulas in Massachusetts, Boston: Massachusetts Advisory Council on Education, 1969.

Dyer, Henry S., "School Factors and Equal Educational Opportunity," Harvard Educational Review, Vol. 38, Winter 1968, pp. 38-56.

Ecker-Racz, L.L. and E. McLoone, "The State Role in Financing Public Schools," Education Digest, Vol. 34, December 1968, pp. 5-8.

Friedman, Milton, "The Role of Government in Education," in Robert A. Solo (ed.), Economics and the Public Interest, New Brunswick: Rutgers University Press, 1955, pp. 132-142.

Garvue, Robert J., Modern Public School Finance, New York: Macmillan Co., 1969.

Hanson, Nels W., "Economies of Scale as a Cost Factor in Financing Public Schools," National Tax Journal, Vol. XIV, March 1962, pp. 125-133.

Hettich, Walter, "Equalization Grants, Minimum Standards, and Unit Cost Differences in Public Education," Yale Economic Essays, Vol. 8, Fall 1968, pp. 3-58.

Hickrod, G. Alan and Cesar M. Sabulao, Increasing Social and Economic Inequalities Among Suburban Schools: A Study in Educational Administration and Finance, Danville, Ill.: Interstate Printers and Publishers, 1969.

Hirsch, Werner Z., "Determinants of Public Education Expenditures," National Tax Journal, Vol. 13, March 1960, pp. 24-40.

Hoffman, Ronald F., "A Systematic Approach to a Practicable Plan for State Aid to Local Governments," Public Finance/Finances Publiques, Vol. XXIV, No. 1, 1969, pp. 1-28.

Horowitz, Harold W. and Diana Neitring, "Equal Protection Aspects of Inequalities in Public Education and Public Assistance Programs from Place to Place Within a State,"UCLA Law Review, Vol. 15, 1968, pp. 787-816.

James, H. Thomas, J. Alan Thomas and Harold J. Dyck, Wealth, Expenditure and Decision-making for Education, Stanford University, School of Education, 1963.

Jencks, Christopher, "Is the Public School Obsolete?" The Public Interest, No. 2, Winter 1966, pp. 18-27.

Johns, Roe L., Kern Alexander and Richard Rossmiller (eds.), Dimensions of Educational Need, National Education Finance Project, Vol. 1, Gainesville, Florida: NEFP, 1969.

Johns, Thomas L. (compiler and ed.), Public School Finance Programs, 1968-69, U.S. Department of Health, Education and Welfare, Office of Education, Washington, 1969, OE-22002-69.

Keppel, Francis, The Necessary Revolution in American Education, New York: Harper & Row, 1966.

Kirp, David L., "The Poor, the Schools, and Equal Protection," Harvard Educational Review, Vol. 38, Fall 1968, pp. 635-668.

Landynski, Jacob W., "Governmental Aid to Non-Public Schools: The Constitutional Conflict Sharpens," Social Research, Vol. 36, Autumn 1969, pp. 333-56.

Levin, Henry M., "The Failure of the Public Schools and the Free Market Remedy," The Urban Review, Vol. 2, June 1968, pp. 32-37.

Lieberman, Myron, "Equality of Educational Opportunity, "Harvard Educational Review, Vol. 29, Summer 1959, pp. 167-83.

Miner, Jerry, Social and Economic Factors in Spending for Public Schools, Syracuse: Syracuse University Press, 1963.

Munger, F.J. and R.F. Fenno, National Politics and Federal Aid to Education, Syracuse: Syracuse University Press, 1962.

Musgrave, Richard A., "Approaches to a Fiscal Theory of Political Federalism," in National Bureau of Economic Research, Public Finances: Needs, Sources and Utilization, Princeton: Princeton University Press, 1961, p. 97-122.

Netzer, Dick, Economics of the Property Tax, Washington: The Brookings Institution, 1966.

Norton, J.K., Does Better Education Cost More? Washington: NEA, 1959.

Oates, Wallace E., "The Effects of Property Taxes and Local Public Spending on Property Values: An Empirical Study of Tax Capitalization and the Tiebout Hypothesis," Journal of Political Economy, Vol. 77, November/ December 1969, pp. 957-71.

Pauly, M.V., "Mixed Public and Private Financing of Education: Efficiency and Feasibility," American Economic Review, Vol. LVII, March 1967, pp. 120-130.

Plummer, James L., "Federal-State Revenue Sharing," Southern Economic Journal, Vol. XXXIII, July 1966, pp. 120-26.

Renshaw, Edward F., "A Note on the Expenditure Effect of State Aid to Education," Journal of Political Economy, Vol. LXVIII, April 1960, pp. 170-74.

Rowland, Howard S., and Richard L. Wing, Federal Aid for Schools, New York: Macmillan Co., 1970.

Stubblebine, Wm. Craig, "Institutional Elements in the Financing of Education," Southern Economic Journal, Vol. XXXII, July 1965, Pt. 2, pp. 15-34.

Tax Institute of America, Federal-State-Local Fiscal Relationships, Proceedings of a Symposium, Princeton: 1968.

Title I of ESEA: Is It Helping Poor Children? A Report by the Washington Research Project of the Southern Center for Studies in Public Policy and the NAACP Legal Defense and Educational Fund, Inc., 1969.

Walker, Mabel, "Financial Responsibility for Education and Welfare," Tax Institute of America, Tax Policy, Vol. XXXVI, April 1969.

Weinberg, Joel S., State Aid to Education in Massachusetts, Boston: New England School Development Council, 1962.

Weisbrod, Burton A., External Benefits of Public Education: An Economic Analysis, Princeton University, Department of Economics, Industrial Relations Section, 1964.

Wise, Arthur E., Rich Schools, Poor Schools: The Promise of Equal Educational Opportunity, Chicago: University of Chicago Press, 1968.